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**KOOTENAI DEVELOPMENT IMPOUNDMENT DAM
DECEMBER 2010 ROUTINE OWNERS INSPECTION**

Prepared for: The Remedium Group

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BILLMAYER & HAFFERMAN INC.
2191 3rd Avenue East
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Inspection Date: January 07th, 2011
Report Date: January 11th, 2011

INSPECTION DATE: January 07th, 2011
REFERENCE: DECEMBER 2010 ROUTINE OWNERS INSPECTION

OBJECTIVES

The end of December 2010 routine owner's inspection was conducted on Friday January 07th, 2011. Personnel included Kurt Hafferman, P.E. and Dan Nelson from BHI and Brandon Chapman and Jeremy Peterson from Chapman Construction.

The inspection was conducted as a routine owner's inspection. Project tasks to be completed included:

1. Safety meeting with Chapman and BHI
2. Check Fleetwood Creek and Upper Rainy Creek inflows
3. Read reservoir level
4. Manometer reading on piezometer P0
5. Inspect the embankment dam
6. Inspect principal spillway
7. Inspect outside and inside of drains
8. Read flumes and weirs below the drain outlets.
9. Read staff gauges in all streams above and below drain outlet channel.
10. Decontaminate and depart site

RESULTS

BHI met with Chapman Construction at 9:45 a.m. and the routine owner's inspection began at 10:00 a.m. and ran until 12:45 p.m. The weather was partly cloudy and calm with light snow. The temperature ranged between 32° and 35°. There is about 14" of snow on the ground and travel and walking was difficult and hazardous. There were no other weather or equipment impediments that affected the inspection. Copies of photographs from the date of the inspection are included in Appendix 1.

Copies of the Routine Owners Inspection Report as filled out after the inspection and copies of the field notes are provided in Appendix 2. The following are the results of each of the ten (10) tasks above;

1. Safety Meeting: Jeremy Peterson is assigned as the health and safety officer and is responsible for equipment condition, decontamination procedures, and over all KDID site safety. The safety meeting with Chapman Construction's Jeremy and Brandon included discussion of the work tasks and procedures for the day, snowmobile safety, adequate clothing and over heating issues and concerns and overall job site safety. Equipment was checked and no issues were found and all personnel were equipped and prepared for the cold and snow conditions. Standard equipment used included: warm weather gear under double Tyvek suits, rubber booties, double vinyl gloves and North® full face mask. Booties were taped at the top and Tyvek suits are taped at the zipper on the outer suit.
2. Fleetwood Creek and Upper Rainy Creek were checked and the flumes were read.

- a. The Fleetwood Creek Flume was froze over and no gauge reading could be taken. Flows were low and appeared to be going around the Flume.
 - b. The flow in Upper Rainy Creek has increased. The URC-02 Flume was read and the gauge height was recorded at 0.35 feet.
3. The reservoir level was below the gauge. The level is estimated to be -0.30 ft., the reservoir is frozen and Snow Covered and no water was visible.
4. All piezometers were read and no anomalies were noted. The field note readings are provided in Appendix 2 and an update of the piezometer plots is included in Appendix 3.
5. A bicycle pump was assembled with a pressure gauge and tubing to read the manometer pressure in peizometer P0; however, due to snow levels and no visible markers, the peizometer could not be found. A map review and GPS coordinates will be needed to located this peizometer for operational testing to occur.
6. No bulges, erosion or other anomalies or changes were noted on the embankment from the upstream face to the toe.
7. No water has run in the Spillway, no changes have been noted or observed and the trash rack is clean.
8. Drains were inspected and the flows in the drains and stream channel below the drains were recorded. Drain 6 had an increase of flows while drain 12 decreased flows. Drain 5 was again recorded at very low levels. Seepage was noted below Drain 7, but no more than has typically been seen. A graduated cylinder was used to check for sedimentation in the water at each drain; none was noted. Drain flows were all clear and steady.
9. All weirs and drains were read, no anomalies were found. Results are shown in Table 1 below.
10. Gauge height readings from the flumes and weirs instream and below the toe drains were taken. Results are shown in Table 1 below.
11. Initial Personnel decontamination was conducted on site. As snowmobiles were used for access and due to dry but snowy conditions, equipment was not pressure washed but was air brushed off and inspected until it was clean. Final decontamination, removal of the inner Tyvek suit and removing the mask, took place at the support trailer.

The readings from all of the inflow and outflow streams, including the flumes, weirs and reservoir levels are shown in Table 1 below. Table 2 shows the net difference between inflows and outflows on the day of the inspection.

Table 1: Flow Measurement Results

Station	GH Reading (ft.) GH Reading last Month	GH Reading (ft.) GH Reading this Month	GH Reading Difference from Sept.	Flow (gpm)/VOL (AF) last Month	Flow (gpm)/VOL (AF) This Month	Flow/VOL Difference from Sept.	Temp °F
URC02	0.32	0.35	+0.03	92.9 gpm	111.3 gpm	+18.4 gpm	42°
Fleetwood Creek	N/R	Frozen		N/R	Frozen		39°
Reservoir	N/R	B/G		N/R	B/G		N/R
F 1-2-3-4	0.12	0.12	-0.00	9.47 gpm	9.47 gpm	-0.00 gpm	48°
W 5	0.01	0.01	-0.000	0.01 gpm	0.01 gpm	-0.00 gpm	48°
D6	0.979	0.958	-0.021	60.1 gpm	87.9 gpm	+27.8 gpm	49°
F 7-8	0.12	0.13	+0.01	6.55 gpm	7.76 gpm	+1.21 gpm	48°
W 12	0.208	0.167	-0.041	22.75 gpm	13.20 gpm	-9.55 gpm	49°
F -Seep	0.04	0.10	+0.06	2.24 gpm	11.13 gpm	+8.89 gpm	43°
LRC01	0.67	0.70	+0.03	257 gpm	345 gpm	+88 gpm	49°
CC02	N/R	0.31		N/R	229.60 gpm		41°
LRC02	N/R	0.40		N/R	428 gpm		41°
LRC06	0.44	0.51	+0.07	497 gpm	624 gpm	+127 gpm	42°

N/R – Not Read due to access

B/G – Below Gauge

Table 2: Total Flows

Total Flows	
Inflows Above Reservoir at URC02*	111.3 gpm
Outflow Below Reservoir above CC02	198.4 gpm
Difference	(+) 87.1 gpm

* - does not include Fleetwood Creek flows as a reading could not be taken

DISCUSSION

In general inflows, reservoir levels, drain outflows and lower Rainy Creek flows are stable to slightly increasing. The inflows from Upper Rainy Creek have increased from 92.9 gpm to 111.3 gpm, an increase of 18.4 gpm or 19.8% from the end of November. The weather has been warmer with temperatures as high as 44° F since the last inspection. Normally we do not see flow increases this time of year so it is attributed to snow melting during warm weather.

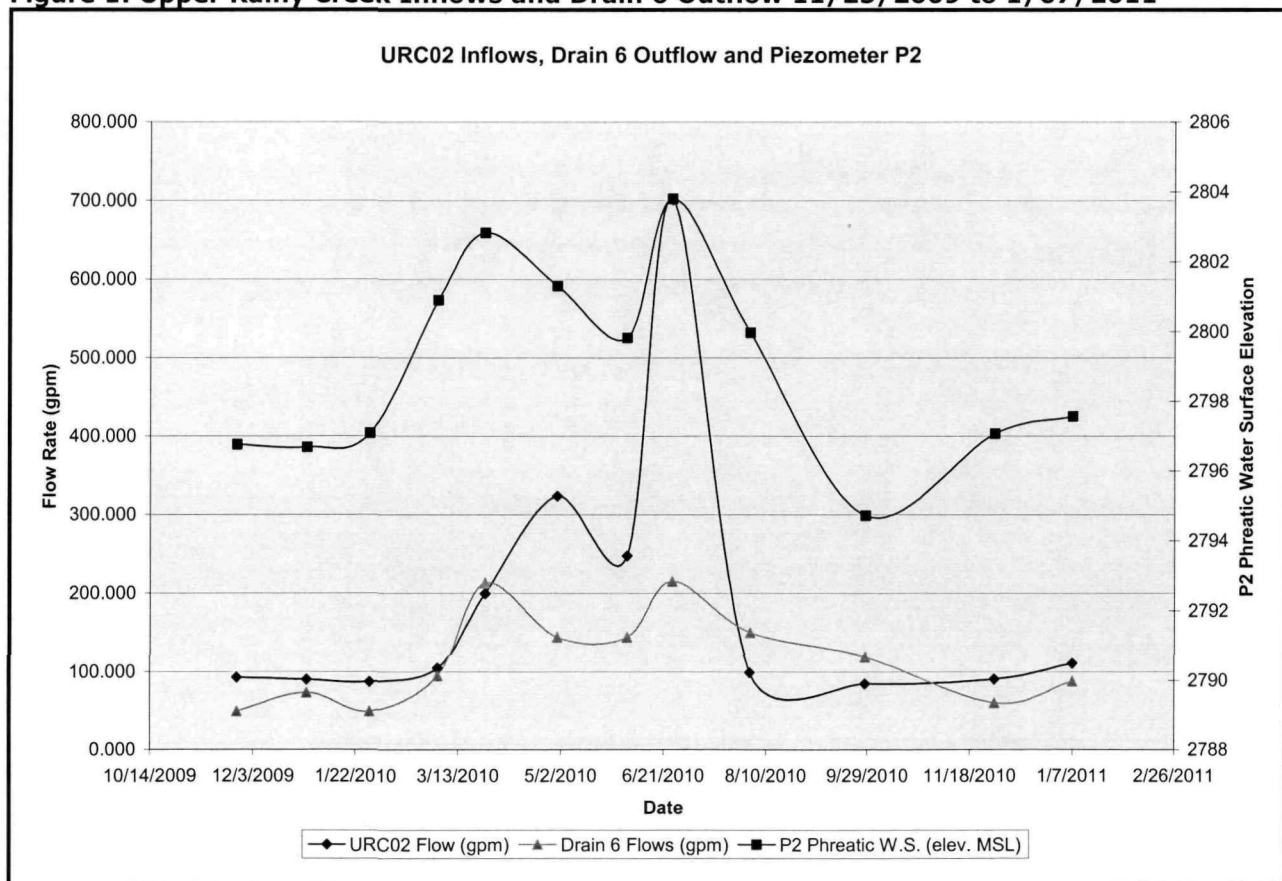
There has been 3.4 inches of precipitation since the November Inspection. The precipitation at the Banfield Mountain USGS monitoring site, which is just northwest of the project, as of January 07, 2011 is reported as 50% of normal, so the water year beginning October 1, 2010 is dryer than normal in this area so far. The overall lack of precipitation shows in the low reservoir levels visually observed.

Due to snow depth, access to the site required snowmobiles. Chapman Construction provided three (3) snowmobiles and with no snowmobile capable of carrying two people, it was determined that Kurt would remain at the staging area as safety backup and await the others return. Kurt relayed pertinent inspection details and safety concerns to Jeremy, the health and safety officer, and the inspection continued as scheduled.

Personnel safety was stressed relative to winter conditions with wet deep snow and all were reminded to not physically exert themselves in deep snow, to use the snowmobiles to travel as much as possible and to use the buddy system or check in times on all tasks. It was decided that all personnel would need to return to the staging trailer no later than 2:00 p.m. It was determined that if the inspection team had not returned by 2:00 p.m., contact via cell telephone would be attempted. If no contact was made by 2:30 p.m. Kurt would arrange for emergency personnel to search for the inspection team. Other than not being able to locate piezometer P0, a full inspection was accomplished and the inspection team had returned to the trailer by 12:45 p.m. The deep snow made travel difficult and exhausting and hampered access to the piezometers.

Drain 6, the main drain at the toe, increased flow from 60.1 gpm to 87.9 gpm, an increase of 27.8 gpm, or 46.3% since November measurements. The increase in flows follows flows that were recorded during last month's (November 2010) inspection as being lower than expected. The drain 6 flows recorded are also slightly higher than the same time last year. The higher readings correlate to the increase in snow and precipitation from the same time last year. A graph of the Rainy Creek inflows, piezometer P2 and drain 6 outflows with a comparison from November 25th of 2009 to this inspection is shown in Figure 1 below. As can be seen, flows were stable in December of 2009 and are stable to slightly rising in 2010.

Figure 1: Upper Rainy Creek Inflows and Drain 6 Outflow 11/25/2009 to 1/07/2011



Although it is not unusual to have an increase of inflows, a rise in piezometers and an increase in drain flow in December is unusual in that it has not been noted in any of the other previous years data. Typically all we see in December are falling inflows, piezometers and drain flows. Drain 6 flows and piezometers will be checked with special attention next month. We do anticipate stabilized readings on the inflow next month and stabilized to slightly falling piezometers with a slight decrease in Drain 6 flows next month.

None the less, a review of the graph above indicates we have arrived at typical low drain flows for this time of year. Drain 6 and URC-02 show elevations readings similar to December 2009 readings and, as such, we expect to see stabilized flows in and out of the reservoir in the coming winter months and we expect to see piezometer P2 and the other 'wet' piezometers (those that exhibit consistent rising and falling water surfaces) stabilize or drop during next months readings.

The piezometer and drain flow data has been updated and the new data sheets and newly updated graphs are attached to this report in Appendix 3. Brandon Chapman was responsible for piezometer readings and matched historical data readings. The updated graph showing all of the wet piezometers is shown in Figure 2 below.

Figure 2: Updated Piezometer Plots

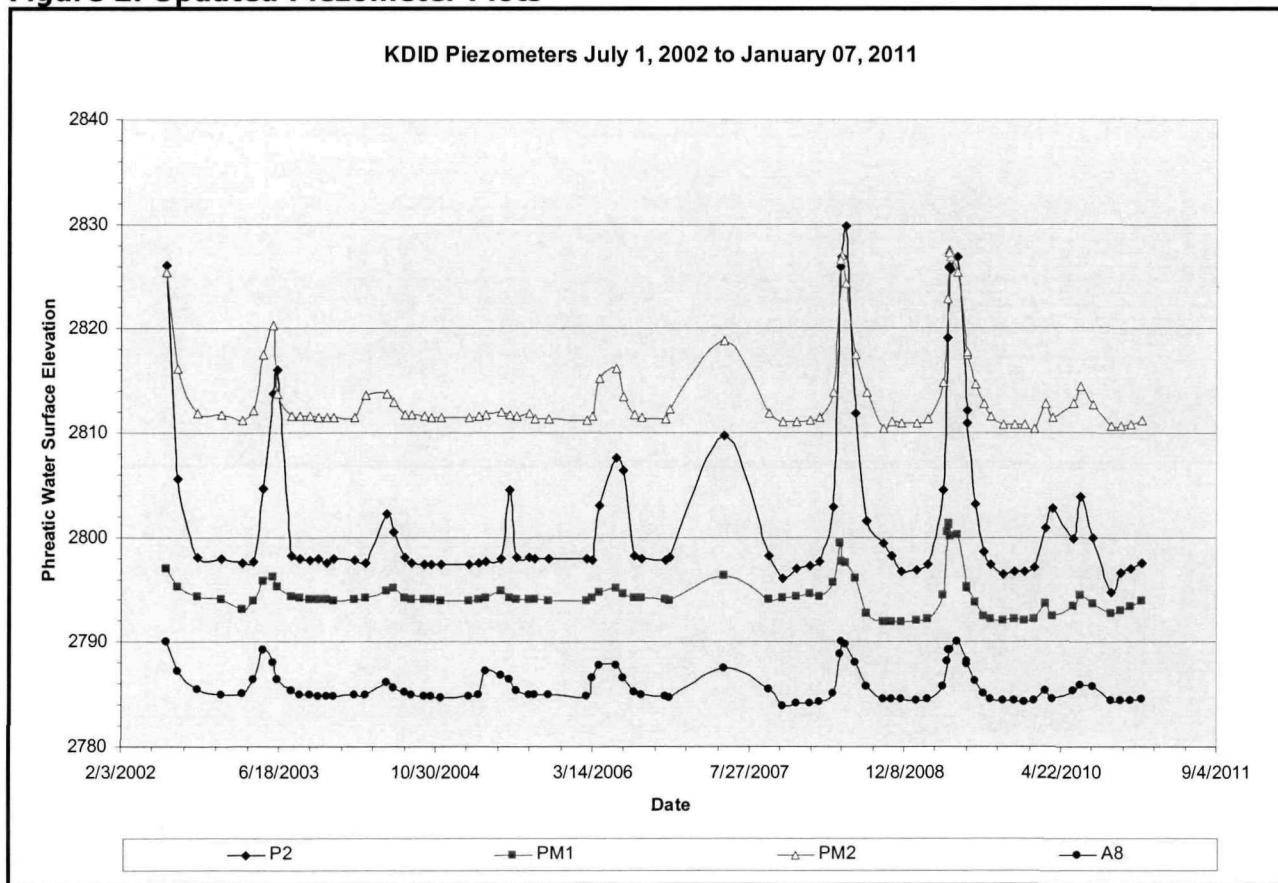
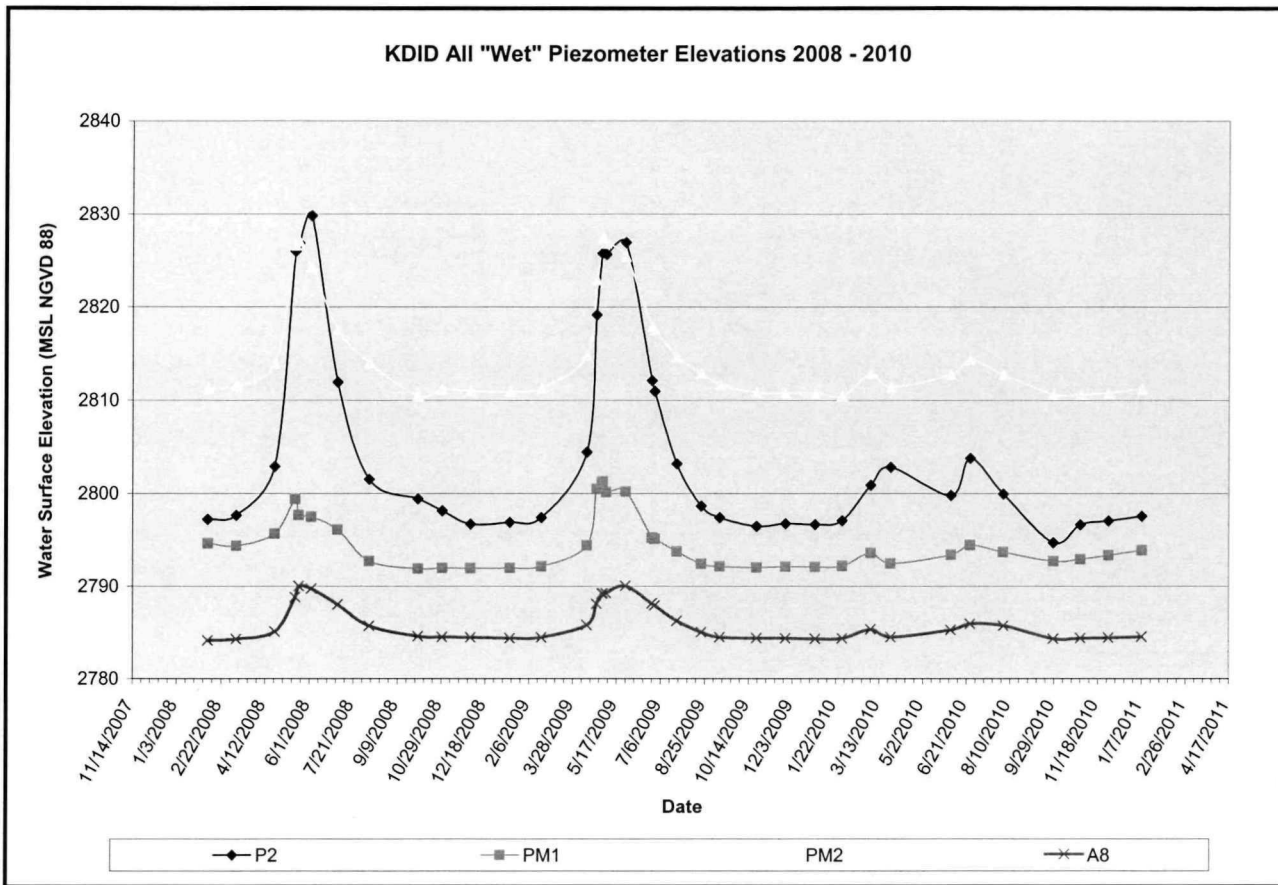


Figure 3 below shows the same piezometers over a shorter period of time.

Figure 3: Piezometer Elevations 2008-2010



The double rise that is shown in the May and July Figures 2 and 3 above are not typical in any of the monitoring records for this time period that BHI has. They are assumed to be weather related as there was a low snowmelt/runoff in late May and then we had a wet and rainy late July and early August.

The graph above shows that all piezometers are at typical levels for this time of year; lower than the peak of the year. We observed the four wet piezometers all seem to follow the general pattern of rising and falling. We note that the over all peak water surface elevations are low to much lower than other years although this has been a normal to slightly higher than normal water year.

HAZWOPER UPDATES

We continue to conduct safety meetings at the beginning of each inspection. All personnel have current certifications, equipment is in good condition and we have no personnel issues. Personnel were reminded to think about the layers of clothing that will be needed under the Tyvek suits in the winter weather. As the temperature drops, more layers may be required. It must be remembered that clothing under Tyvek suits cannot be removed and yet over heating must be prevented.

During this inspection, due to the equipment limitations, no water was available to use in the pressure wash equipment. The snowmobiles have a very limited carrying capacity and do not allow us to haul water or equipment onsite for decontamination and using water in frozen conditions is not practical. Extra care must be taken when snowmobiles are used onsite to limit the possibility of contamination and not encounter water and mud and to stay on the frozen, snow covered ground.

During the decontamination there was no observed dirt or frozen material on personnel or equipment. Decontamination was conducted at the contamination reduction area by brushing the snow off of the equipment and inspecting until no dirt or ice was found. The equipment decontamination was successful, outer Tyvek suits were removed and the snowmobiles were taken down to the site trailer. At the site trailer, outer Tyvek suits were removed. All final equipment removal and storing procedures were completed at the support trailer due to logistics.

Clearly, frozen conditions require a special decontamination protocol that will be temperature and snow or ice cover related. The protocol for equipment and decontamination in cold weather will require a comparison of the on site conditions to personnel safety, public safety and overall efficiency.

CONCLUSION

No significant anomalies or changes were noted. Recent warm weather, rain and snowmelt have increased inflows, piezometers 6 and Drain 6 flows. All readings have risen slightly but are expected to return to normal levels for this time of year.

All elements inspected show no major issue or concerns this month that have not already been addressed. Inflows and reservoir levels are still low to very low but are expected to rise with increased snow levels.

On site work is complicated and made more hazardous by cold weather. Better communication may be needed to have equipment that provides adequate access for all personnel scheduled to participate in the inspection.

RECOMMENDATIONS

No maintenance issues at this time. Continue to closely monitor inflow, piezometer readings and drain 6 outflows for fluctuations.

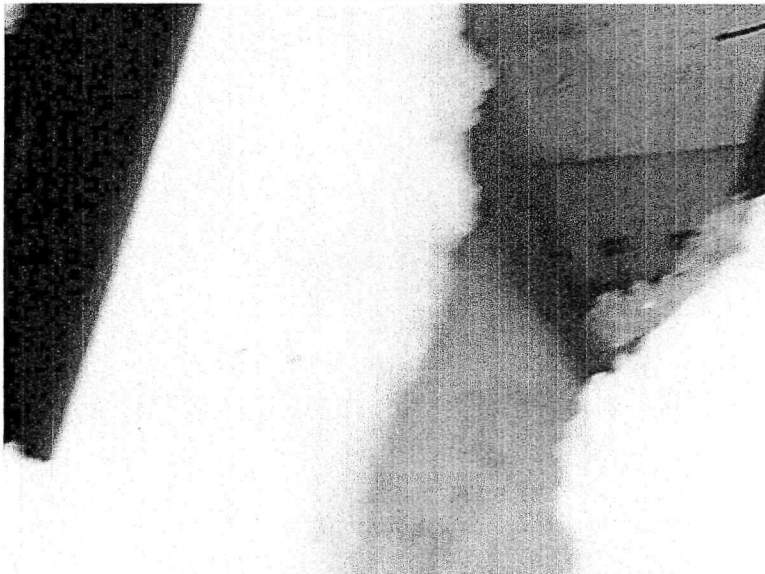
It is recommended that a weather related personnel, equipment and decontamination protocol be established by BHI and Chapman Construction.

APPENDIX 1

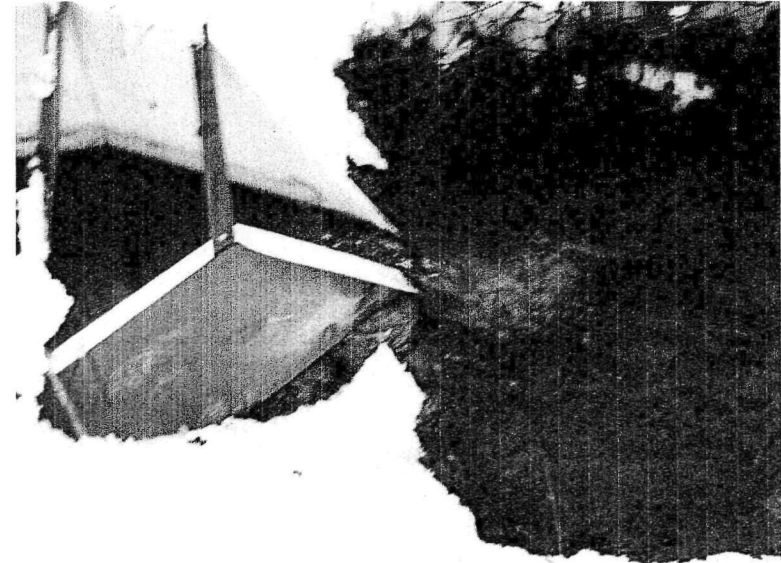
SITE PHOTOGRAPHS



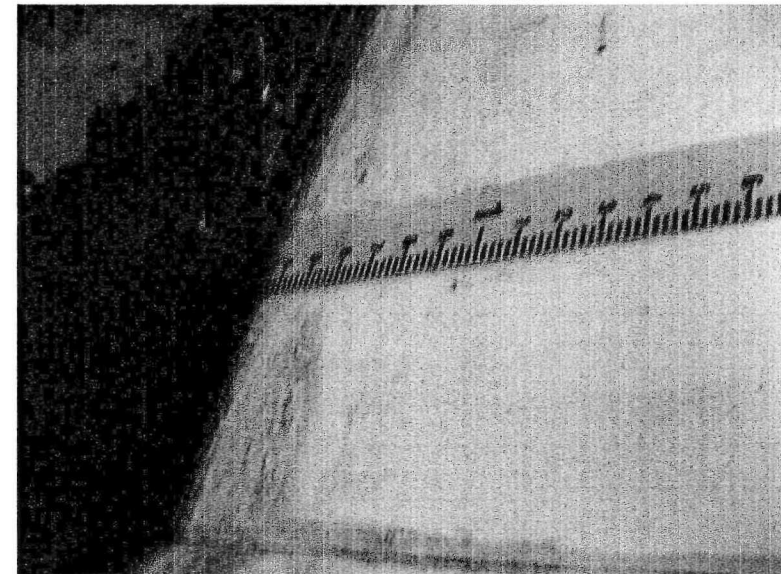
Fleetwood Creek Flume - Frozen



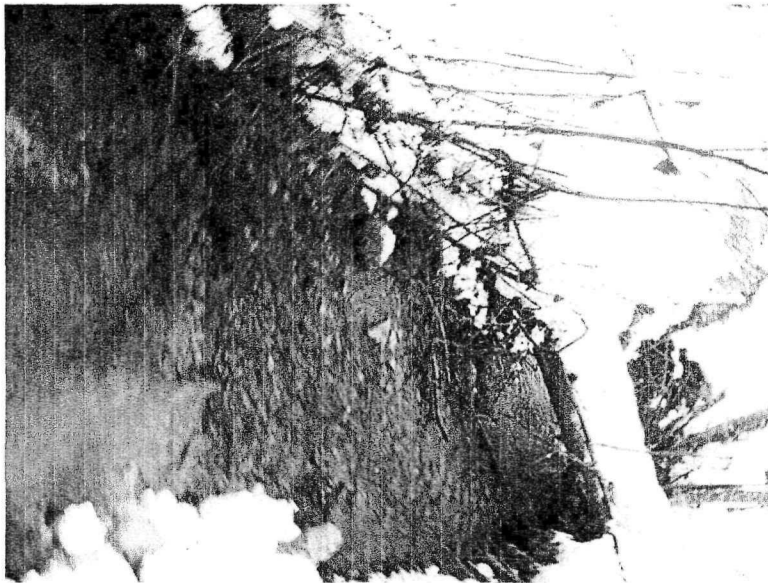
Fleetwood Creek Gauge – Ice to 0.40'



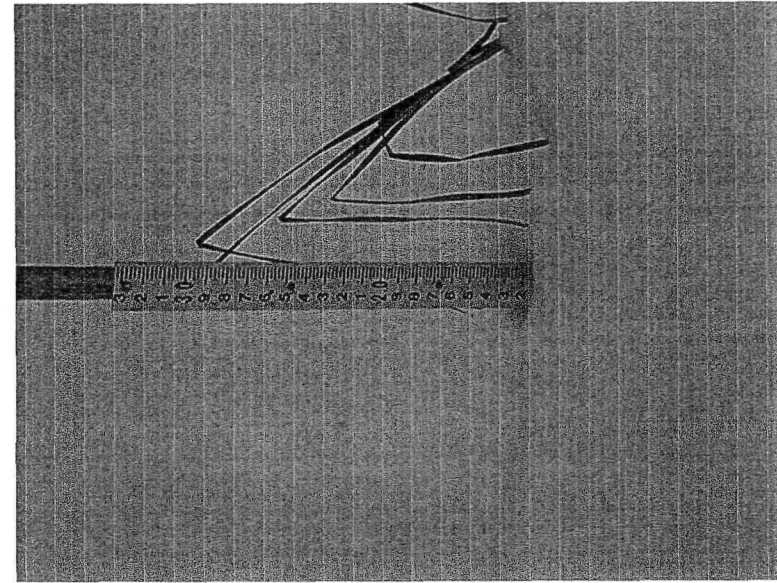
URC-01 Flume Outlet



URC-01 Gauge – Low Flow



URC-01 Looking Downstream



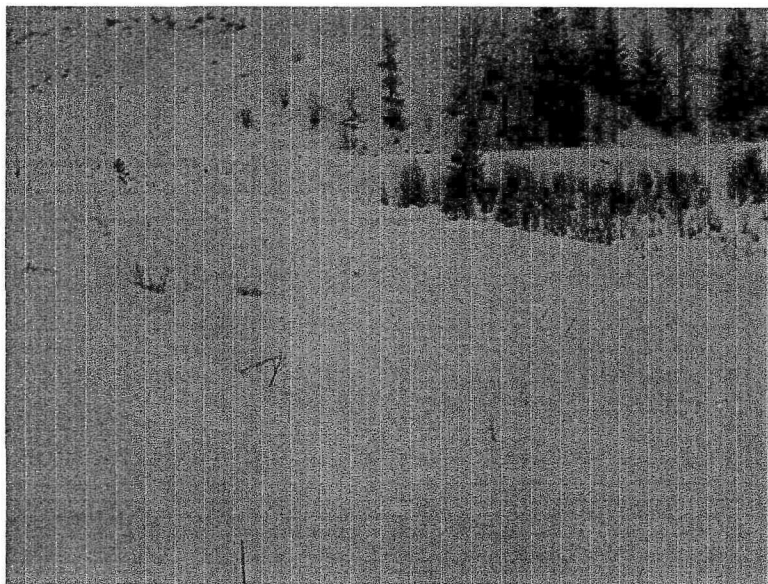
Reservoir Gauge



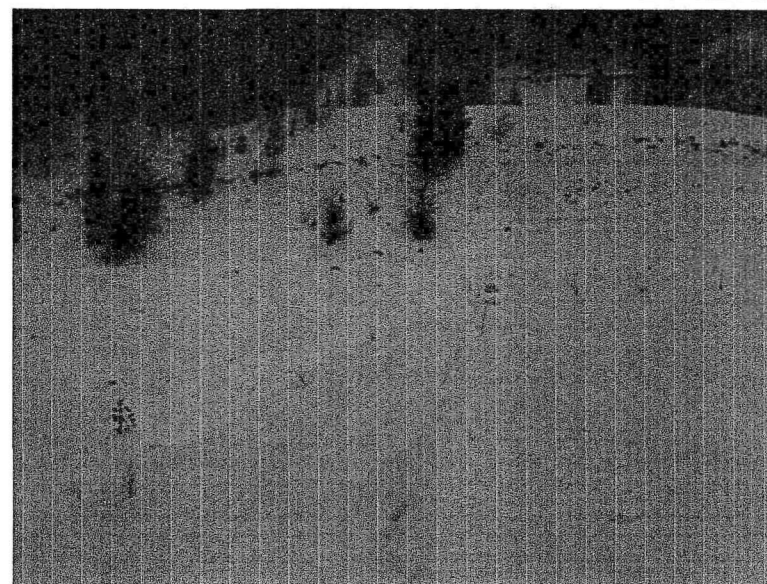
Lookout out over Reservoir from Gauge



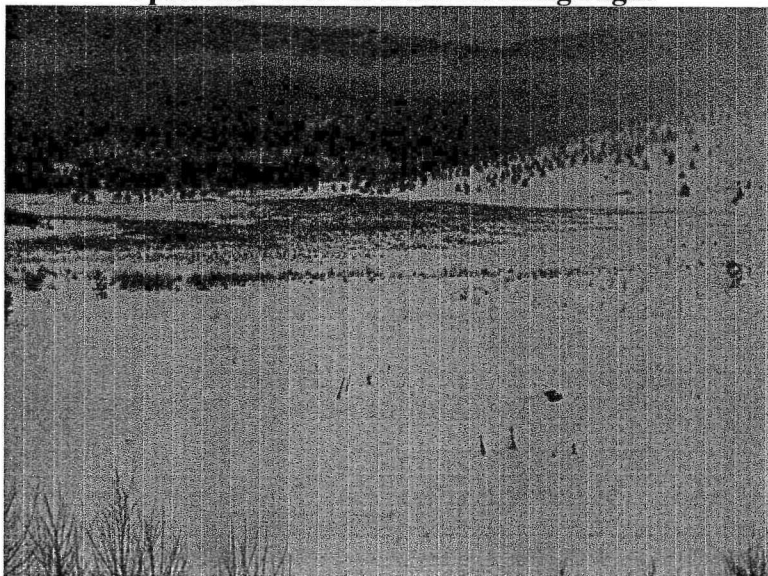
Upstream Crest of Dam Looking Left



Upstream Crest of Dam Looking Right



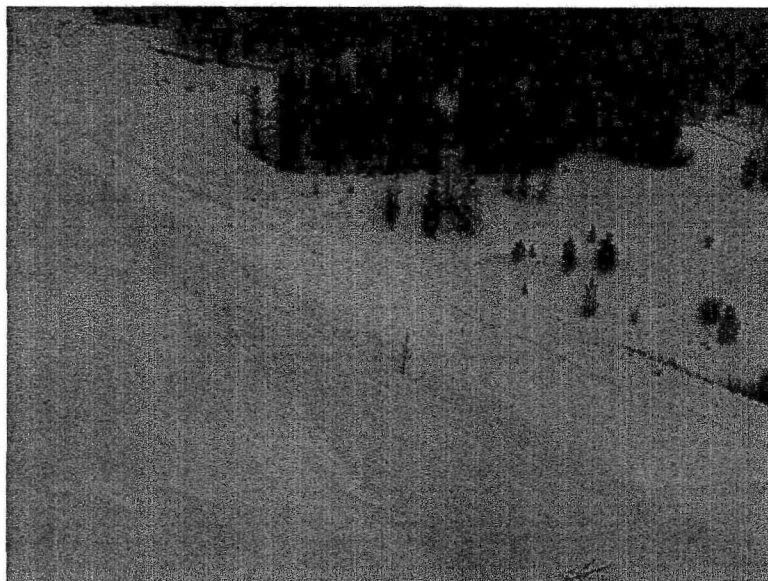
Downstream Crest of Dam Looking Right



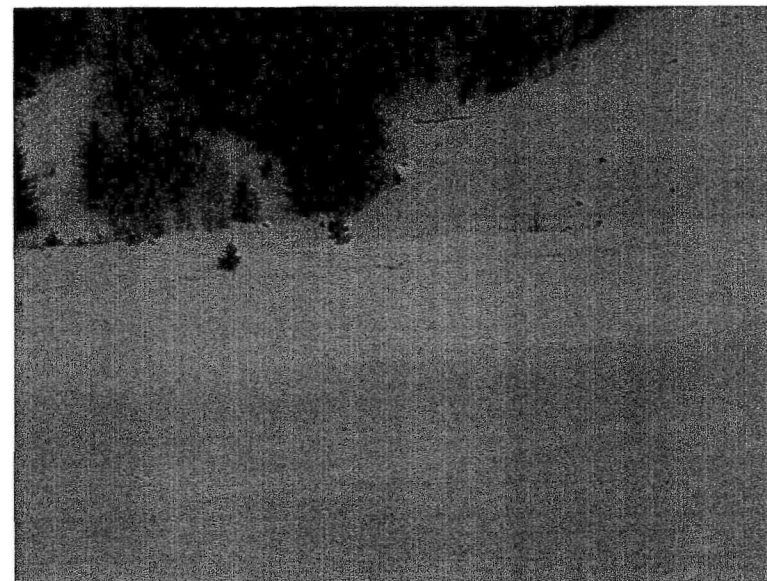
Looking Over Reservoir from P1



Downstream Crest of Dam Looking Left



Downstream Face of Dam to Left Abutment



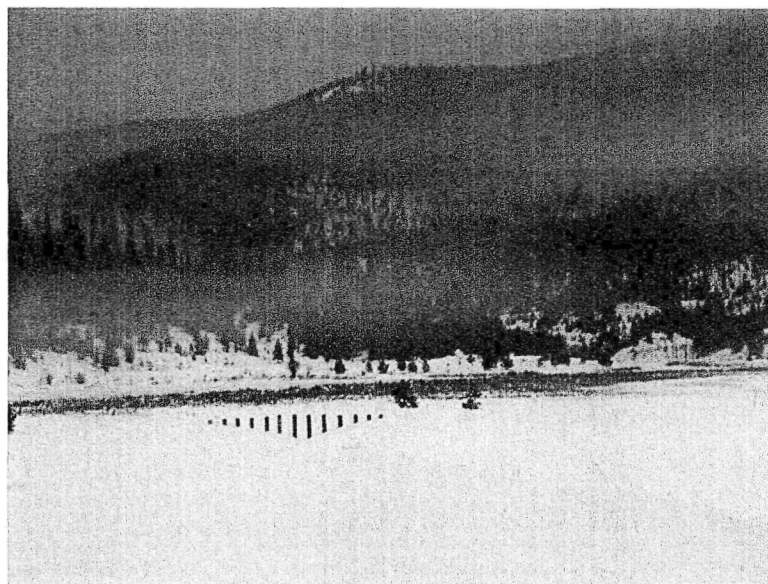
Downstream Face of Dam to Right Abutment



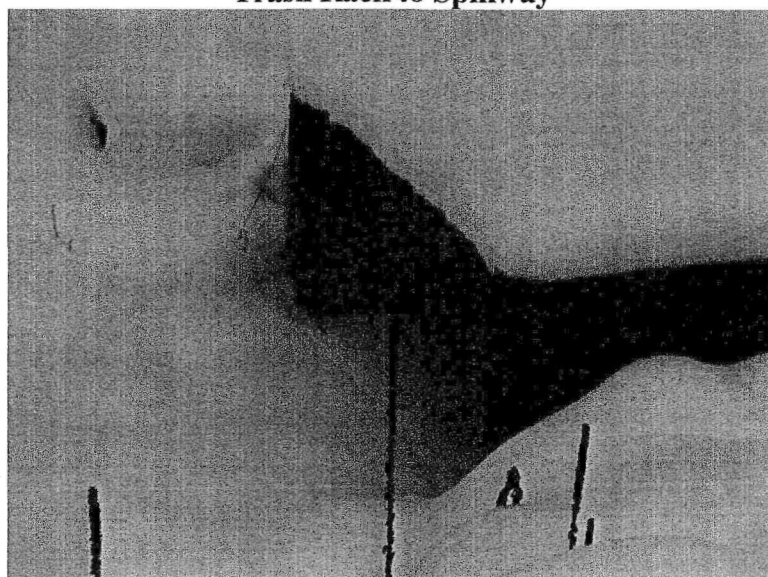
Downstream Face of Dam to Lower Rainy Creek



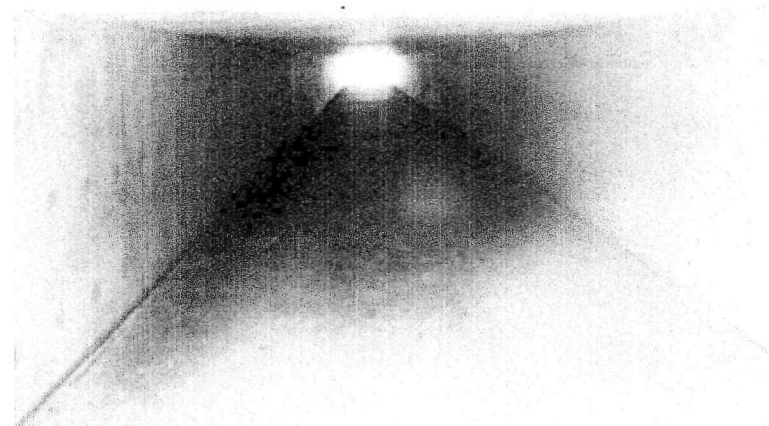
Crest of Dam looking Left



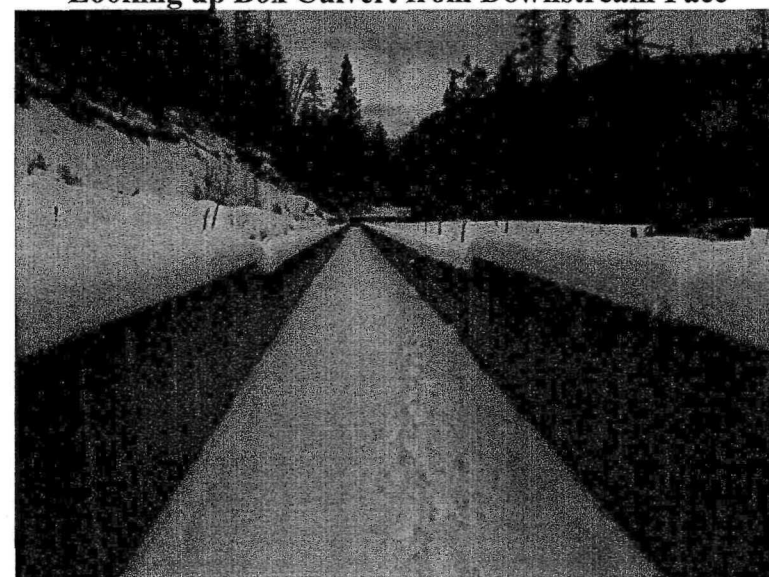
Trash Rack to Spillway



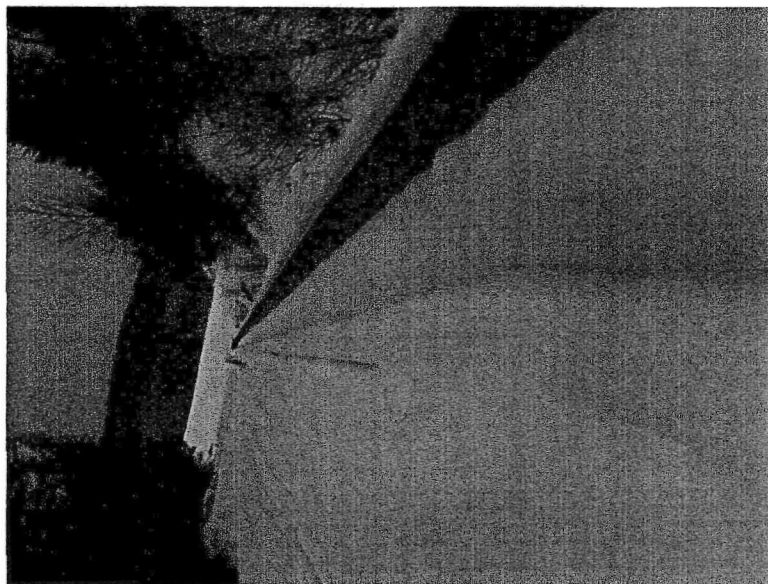
Box Culvert Entrance



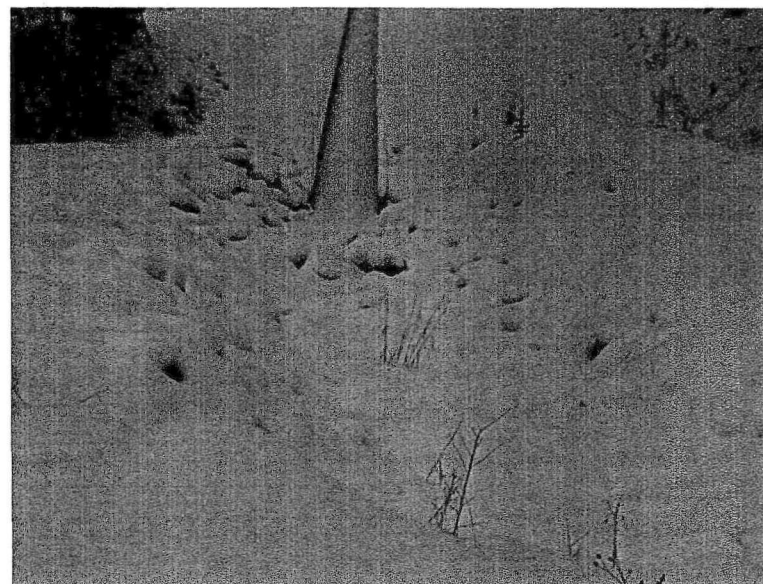
Looking up Box Culvert from Downstream Face



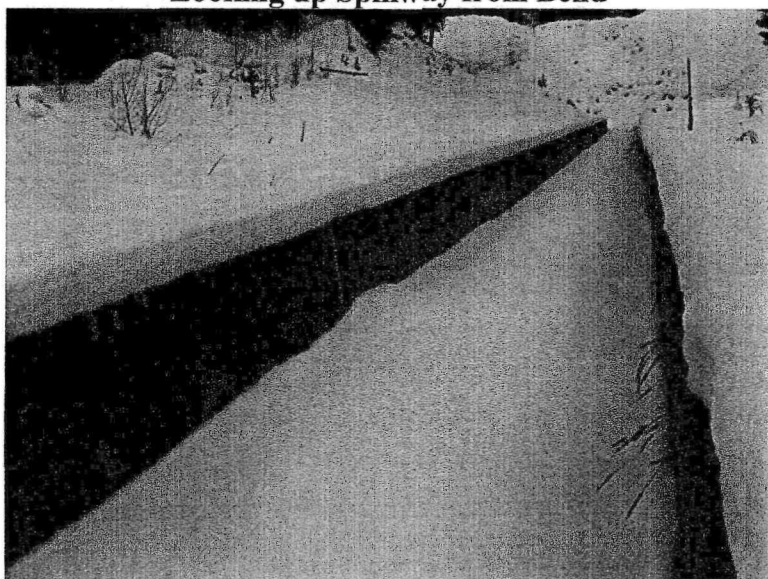
Looking Down Spillway



Looking up Spillway from Bend



Looking over Rip Rap Pad to Steep Chute



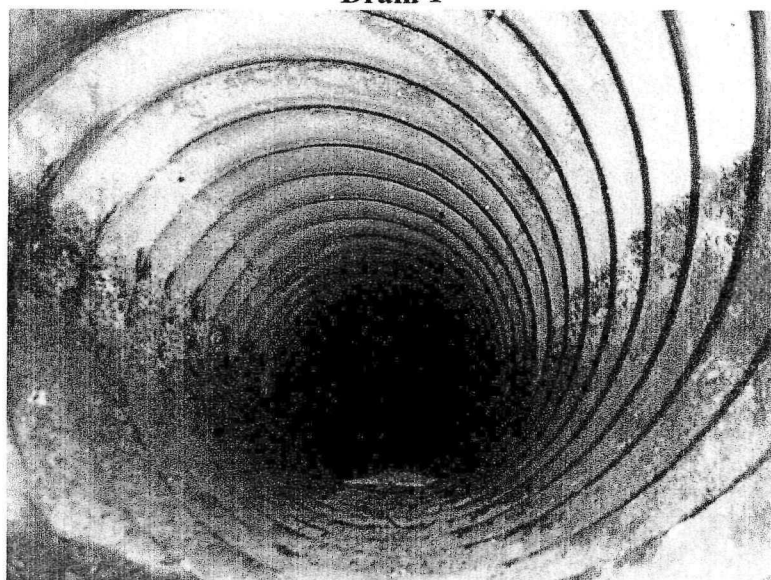
Looking Down Steep Chute Section



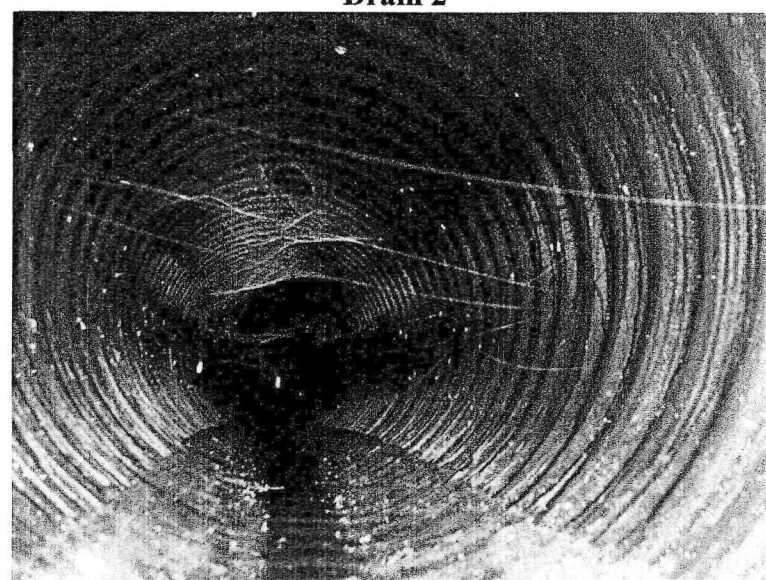
Drain 1



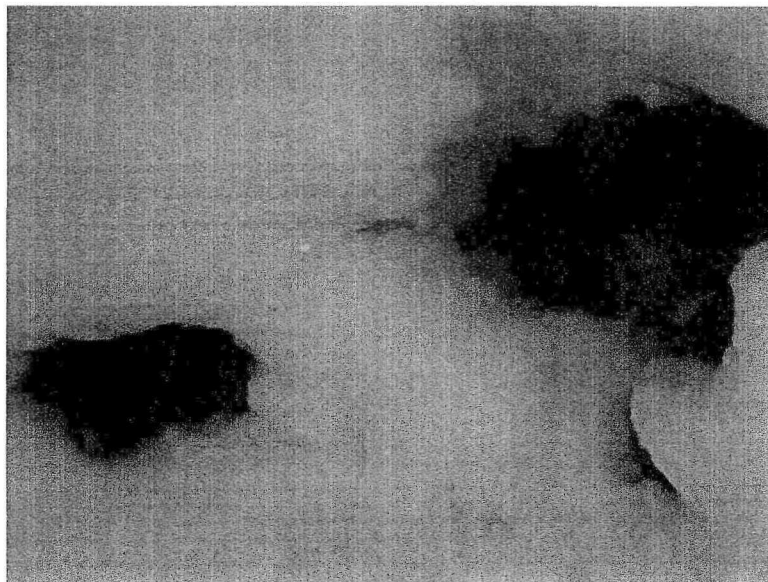
Drain 2



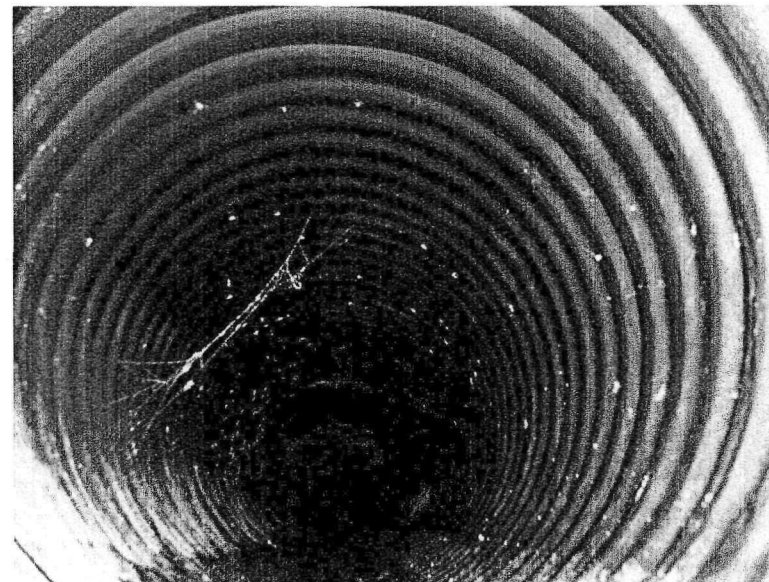
Looking up Drain 1



Looking up Drain 2



Drains 1 and 2



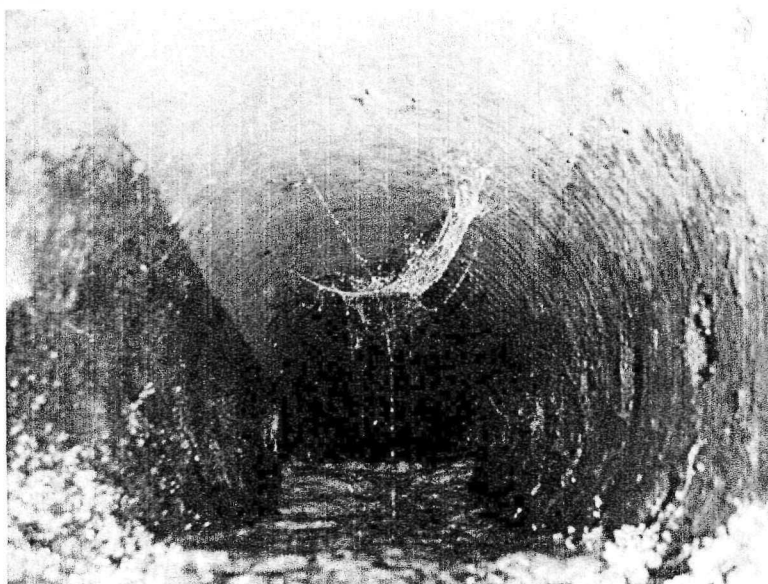
Looking up Drain 3



Drain 3



Drain 4



Looking up Drain 4



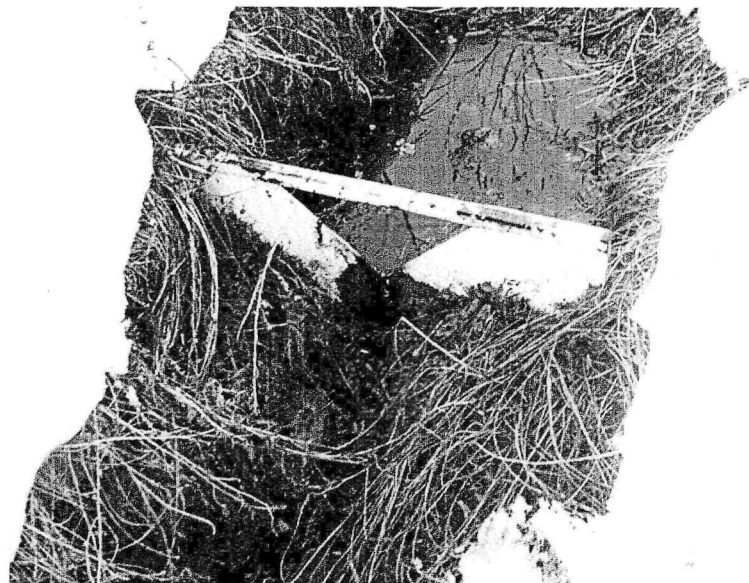
Flume 1,2,3,4 Gauge



Flume 1,2,3,4



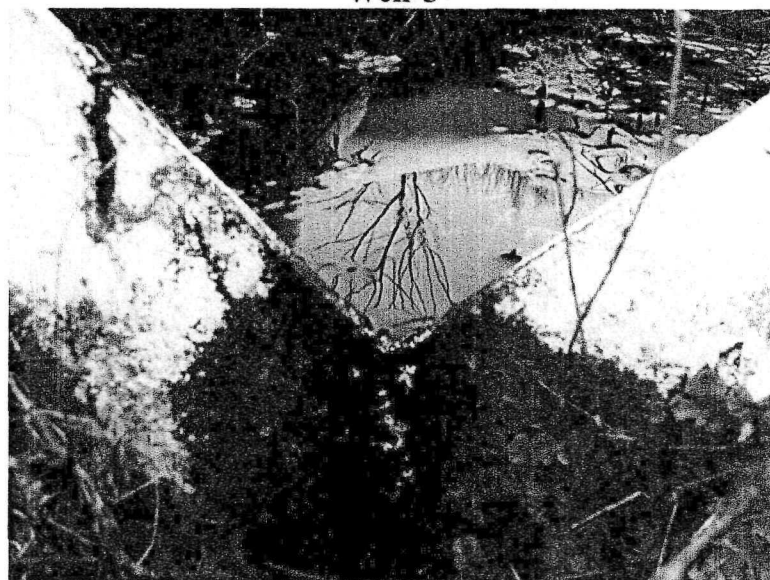
Flume 1,2,3,4 looking to Drain 4



Weir 5



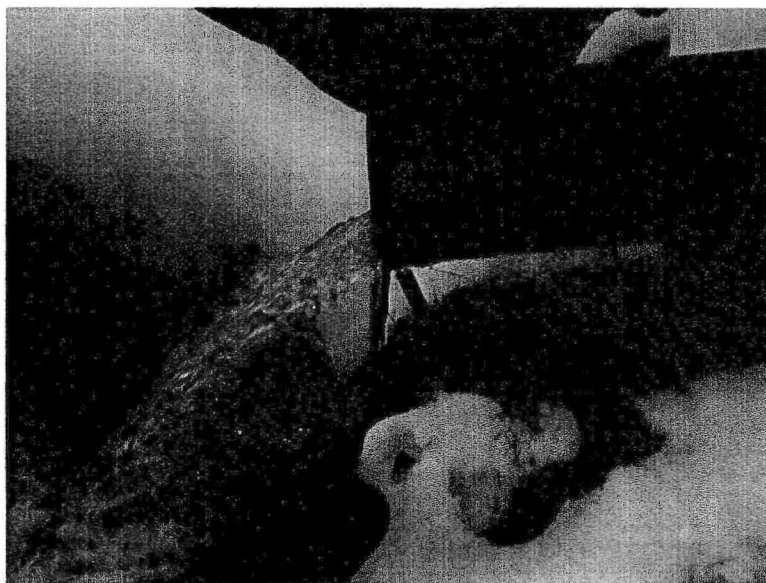
Drain 5



Weir 5 Very Low Flow



Looking up Drain 5



Drain 6 Side View



Looking Up Drain 6



Drain 6



Drain 7



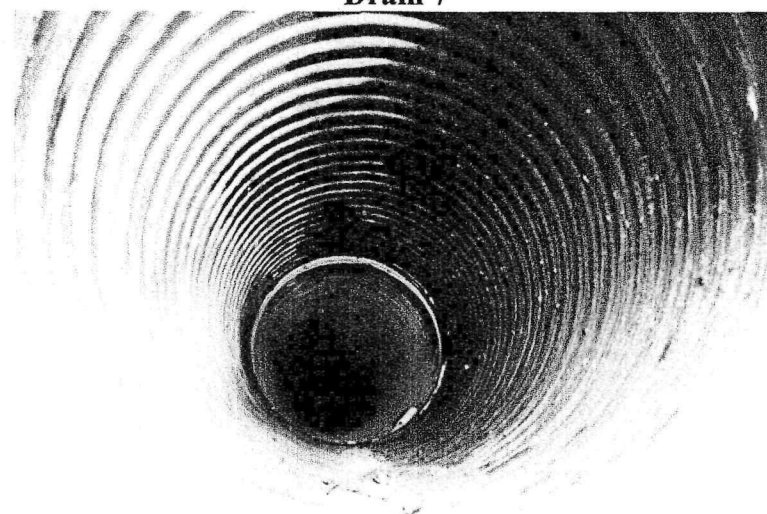
Seepage Below Drain 7



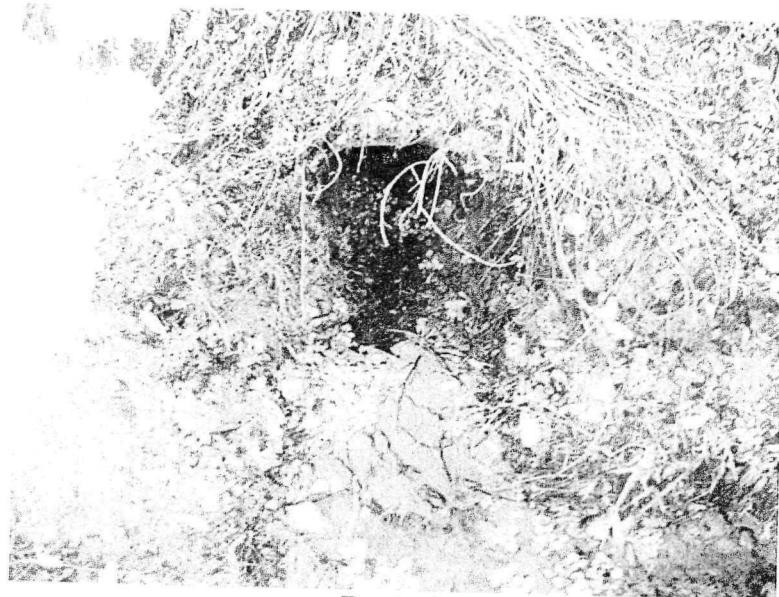
Drain 7



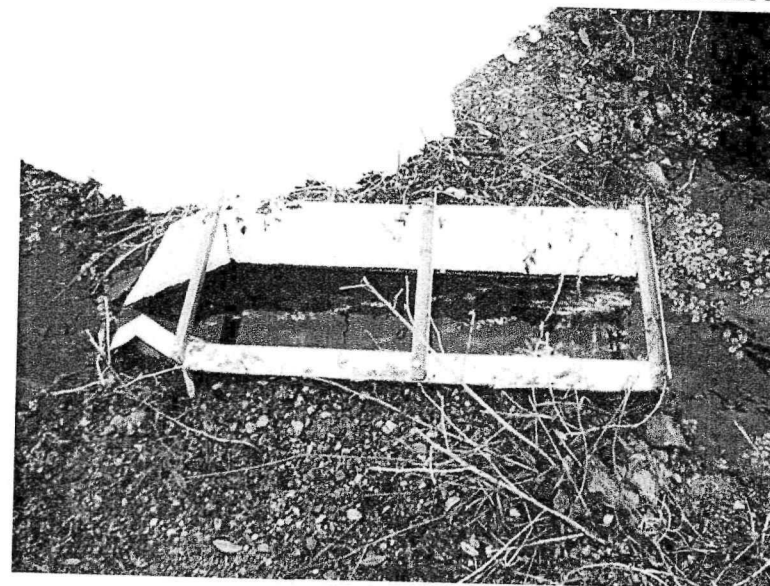
More Seepage Below Drain 7



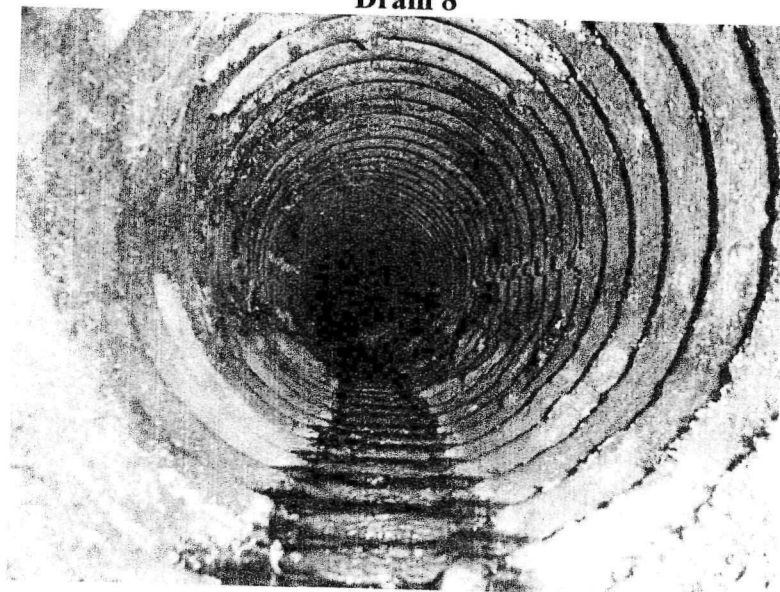
Looking up Drain 7



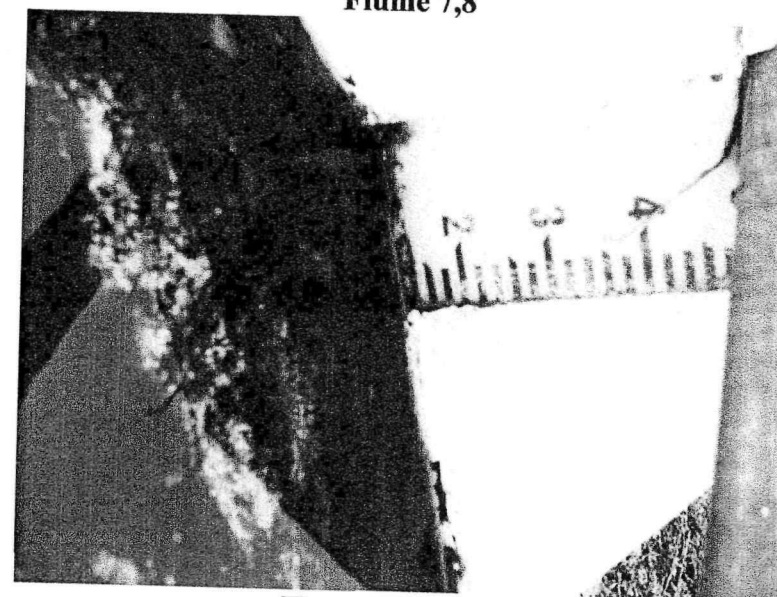
Drain 8



Flume 7,8



Looking up Drain 8



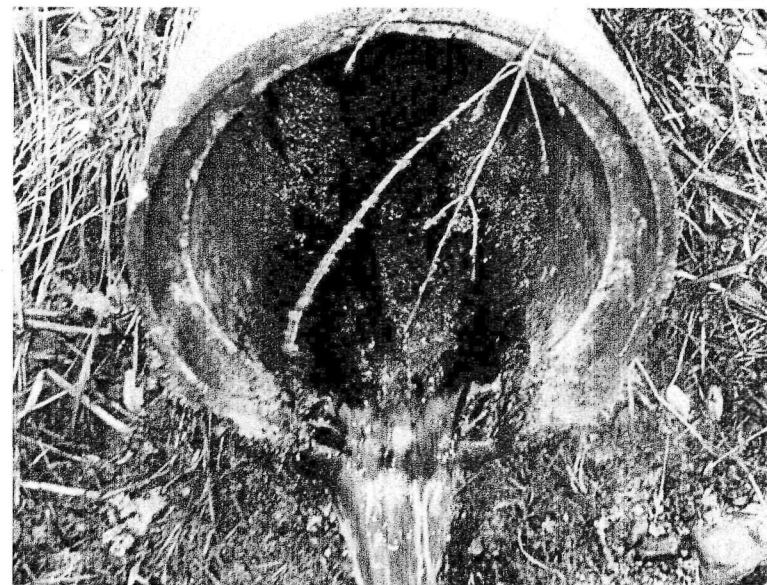
Flume 7,8 Gauge



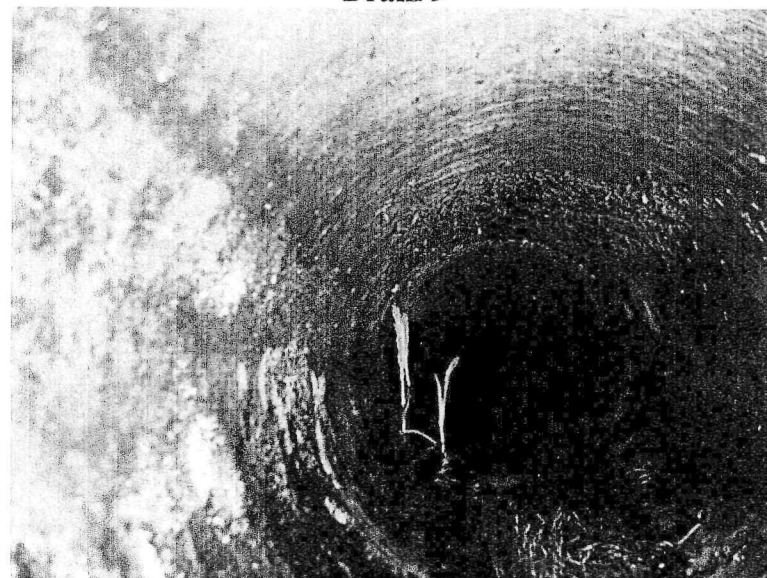
Lower Rainy Creek Below Flume 7,8



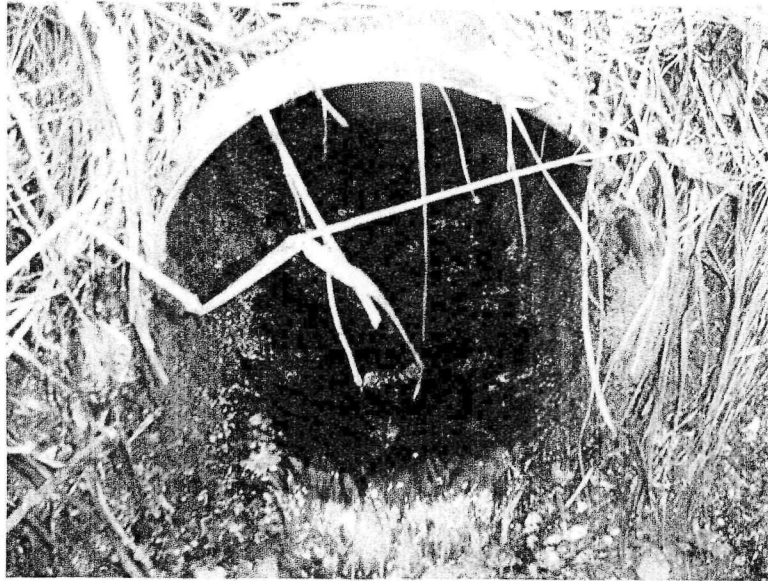
Flow from Drains 9 – 12 From Flume 7,8



Drain 9



Looking up Drain 9



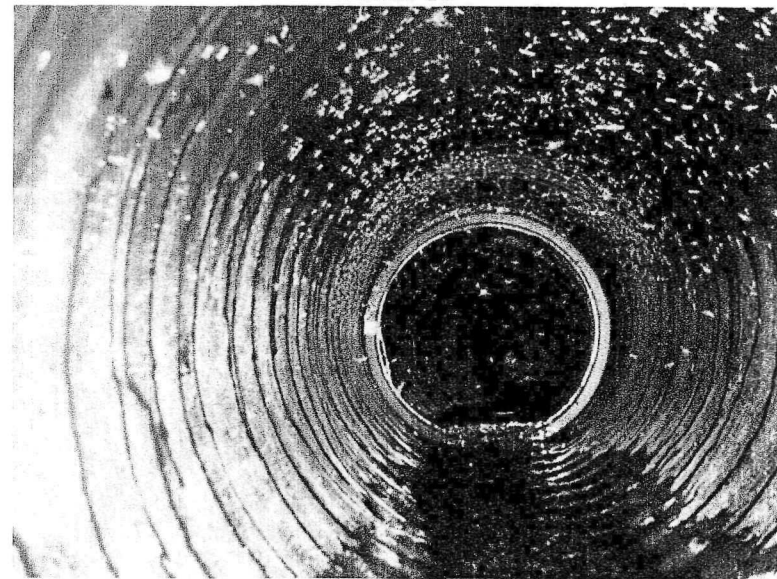
Drain 10



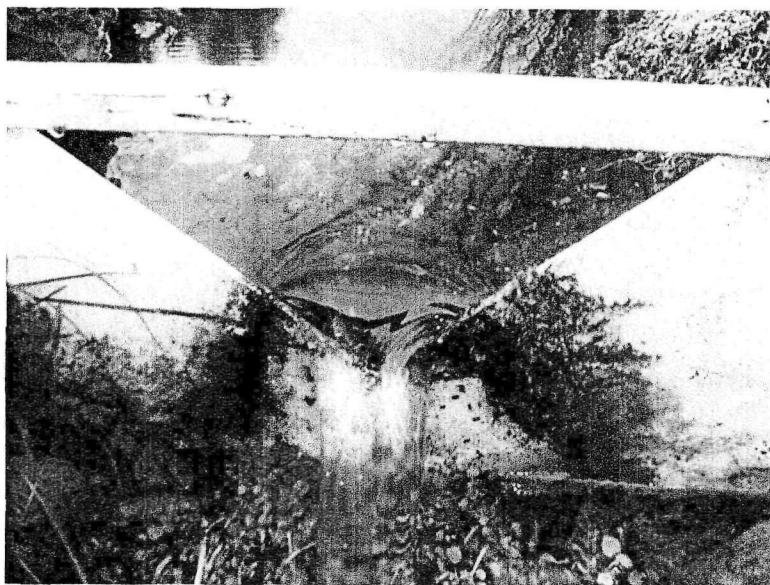
Drain 11



Looking up Drain 10



Looking up Drain 11



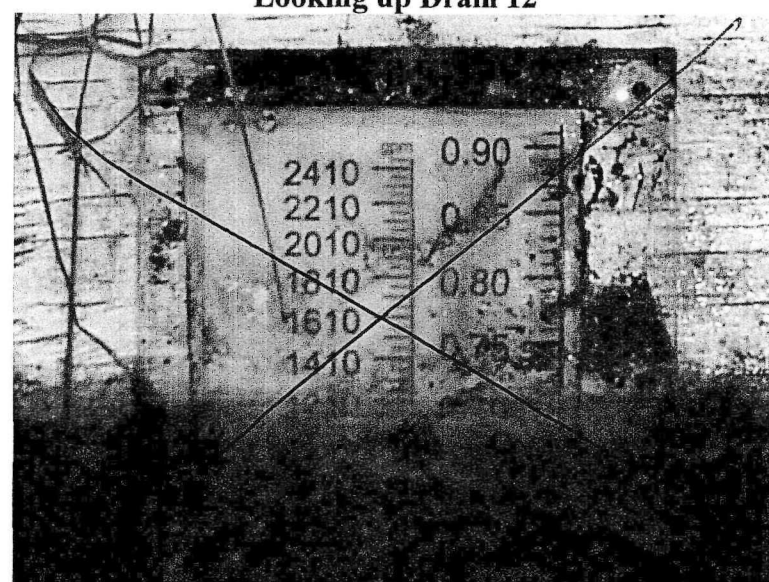
Weir 12



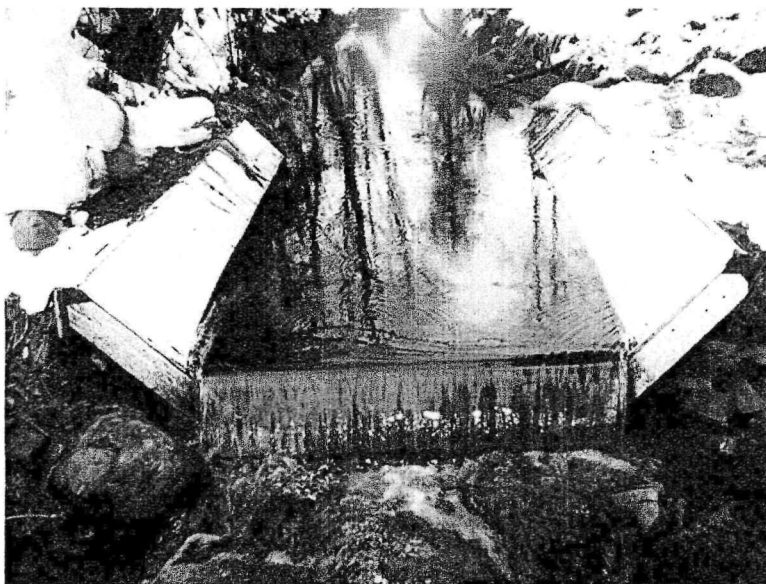
Looking up Drain 12



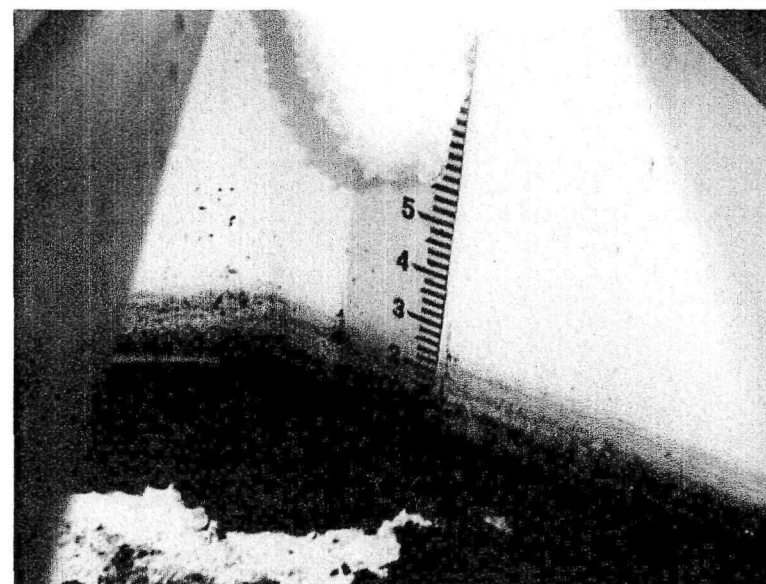
Drain 12



LRC-01 Gauge



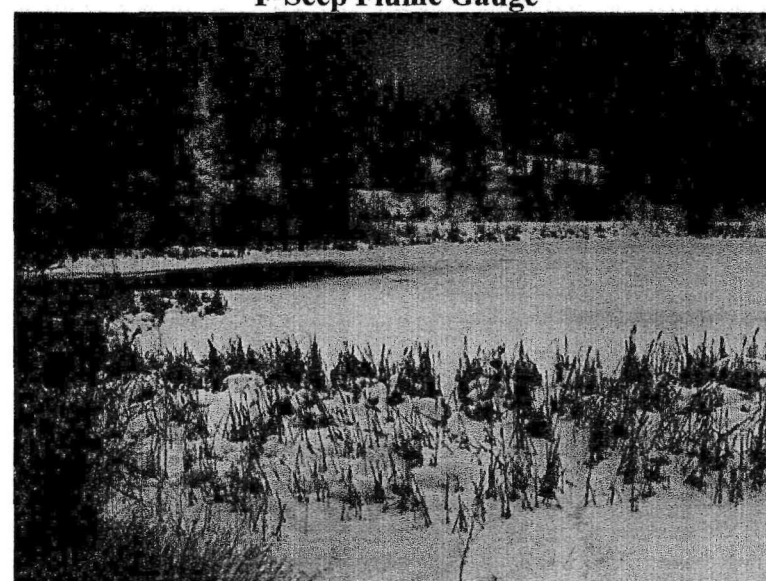
LRC-01 Flow Looking Upstream



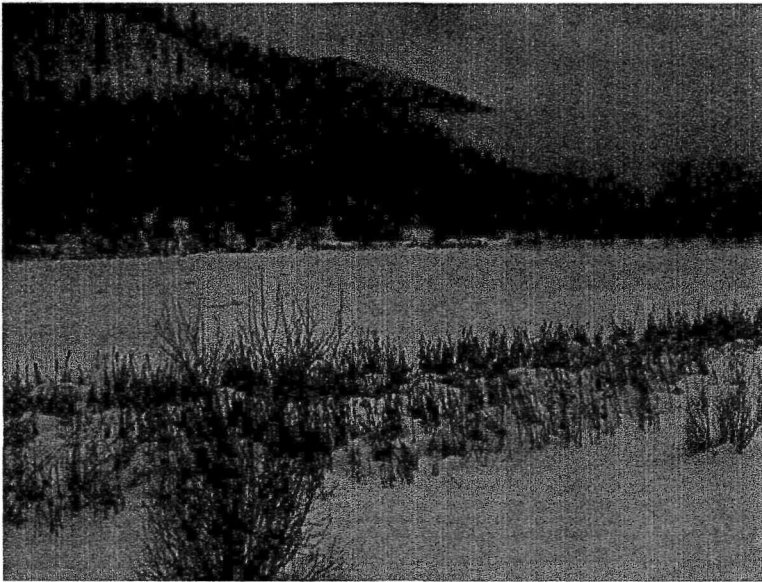
F-Seep Flume Gauge



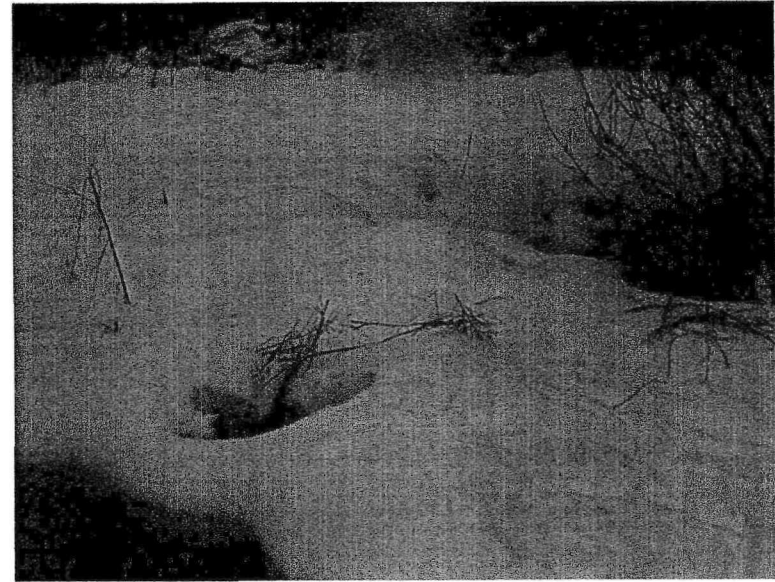
F-Seep Flume



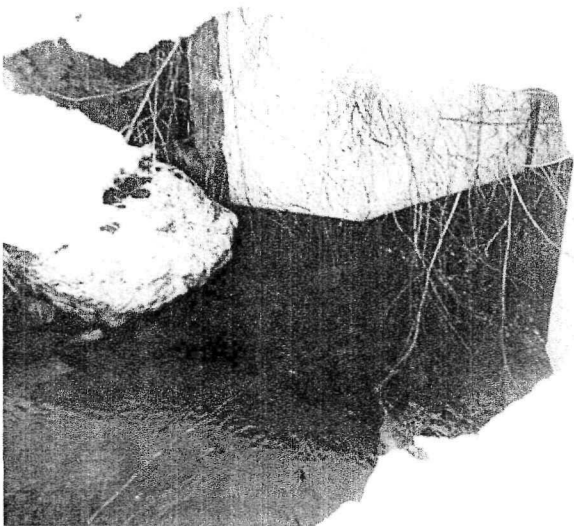
Looking over Mill Pond



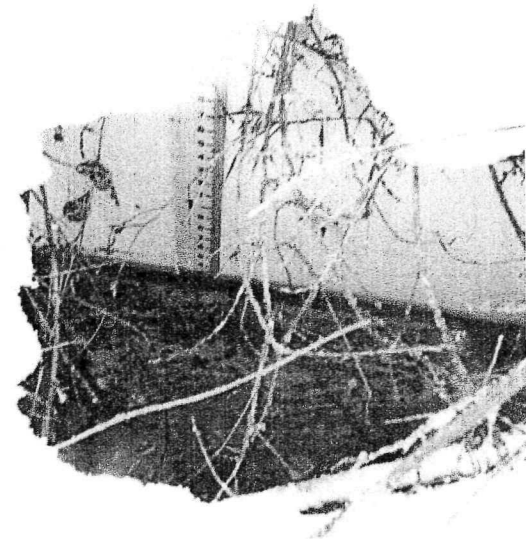
Looking over Mill Pond to Earthen Dam



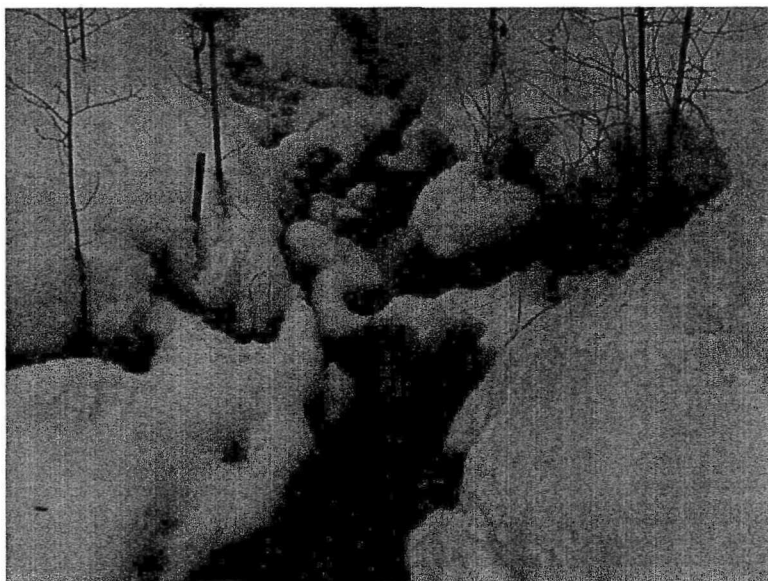
LRC-02 Covered with Snow



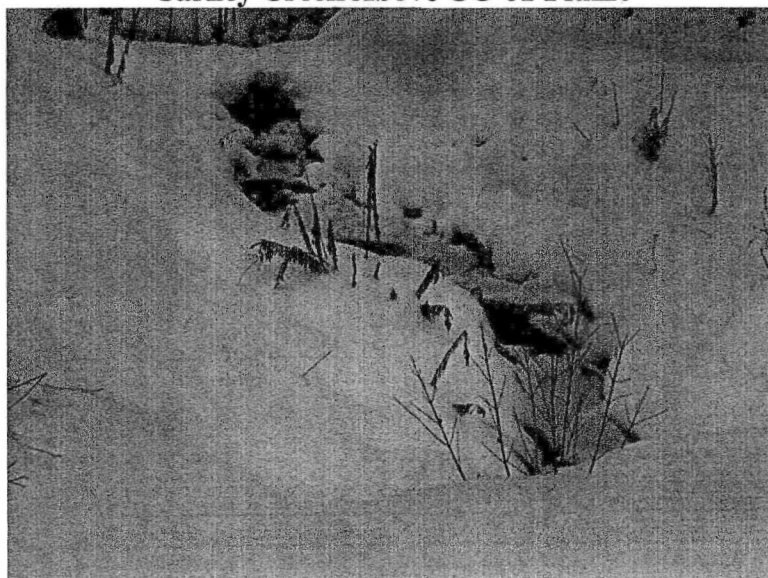
LRC-02 Inlet



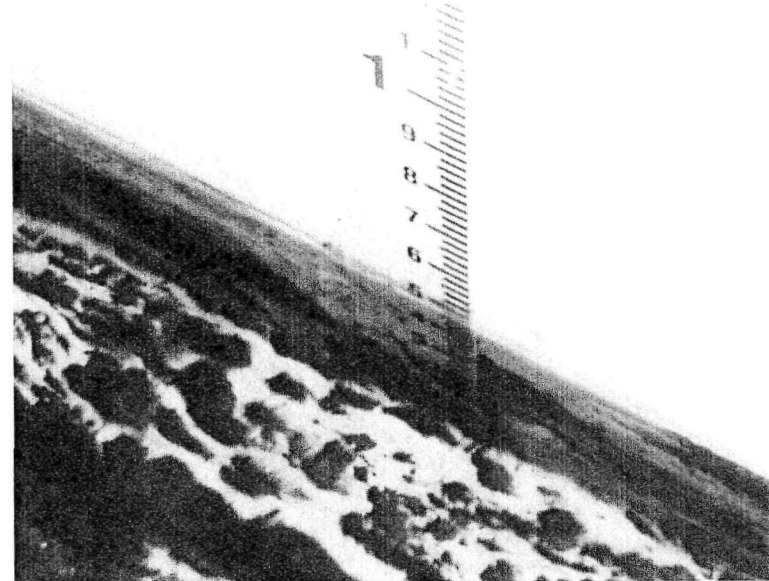
LRC-02 Gauge



Carney Creek Above CC-01 Flume



Looking up to CC-01 Flume



LRC-06 Gauge



LRC-06 Flume

APPENDIX 2

PERIODIC INSPECTION REPORT & FIELD NOTES

PRINCIPAL INSPECTOR ON SITE: Dan Nelson BHI		OBSERVATION DATE (S)		7-Jan-11			
OTHER PERSONNEL ON SITE: Brandon Chapman and Jeremy Peterson from Chapman Const.		WEATHER CONDITIONS		Cldy, cool ~34°, calm, light snow/rain, ±14" of snow on ground			
Work Tasks: Measure flow, check URC02, check Fleetwood Creek, take reservoir level, measure piezometers, check crack in box culvert, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06		EQUIPMENT		Well probe, long fiberglass tape, camera, flashlight, misc. field equip.			
AREA INSPECTED	EMBANKMENT			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
CREST	1	GENERAL SURFACE CONDITION	Good, no change				
	2	DISPLACEMENTS	None				
	3	EROSION	None				
	4	CREST ALIGNMENT	Good, no change				
	5	WEEDS OR BRUSH	No change				
	6	ANIMAL BURROWS	No change				
	7	EARTHEN EMERGENCY SPILLWAY	Good, no change				
	8						
	9						
UPSTREAM FACE	10	SLIDES, DISPLACEMENT OR BUDGES	None				
	11	EROSION	None				
	12	WEEDS OR BRUSH	None				
	13	PIEZOMETER CASINGS	Good, no change				
	14	ABUTMENT CONTACTS	Good, no change				
	15	ANIMALS BURROWS	No change				
	16	DISTANCE TO WATER	~850 ft. reservoir at typical low level				
	17						
	18						
	19						
ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE							
1							

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Dan Nelson BHI	OBSERVATION DATE (S)	1/7/11
OTHER PERSONNEL ON SITE: Brandon Chapman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Clidy, cool ~34°, calm, light snow/rain, ±14" of snow on ground
Work Tasks: Measure flow, check URC02, check Fleetwood Creek, take reservoir level, measure piezometers, check crack in box culvert, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	DOWNSTREAM AND INSTRUMENTATION			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
DOWNSTREAM SLOPE	20	GENERAL SURFACE CONDITION	Good no change				
	21	DISPLACEMENTS	None				
	22	EROSION	None				
	23	LIFT ALIGNMENTS	Good				
	24	WEEDS OR BRUSH	No change				
	25	ANIMALS BURROWS	No change				
	26	EARTHEN EMERGENCY SPILLWAY	Good, no change				
	27	SEEPAGE	None				
	28	ABUTMENT CONTACTS	Good, no change				
INSTRUMENTATION	29	PIEZOMETERS	Measured, see attached measurements	X			
	30	WEIRS	Gauges read, see attached	X			
	31	FLUMES	Gauges read, see attached	X			
	32	RESERVOIR LEVELS	Not read - typical low levels	X			
	33	RAINY CREEK INFLOW MEASUREMENTS @ URC02	GH= 0.35, Increase 18.4 gpm	X			
	34	RAINY CREEK OUTFLOW BELOW DAM @ LRC01	GH= 0.70, 345 gpm	X			
	35	STREAM OUTFLOW BELOW MILL POND @LRC02	GH=0.40, 428 gpm	X			
	36	STREAM OUTFLOW FROM CARNEY CREEK @CC02	GH=0.31, 229.60 gpm	X			
	37	STREAM OUTFLOW FROM RAINY CREEK @LRC06	GH=0.51, 624 gpm. Increase 127 gpm	X			
	38	FLUME 1-2-3-4	GH=0.12, 9.47 gpm. No change	X			

ADDITIONAL COMMENTS REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Dan Nelson BHI

OBSERVATION DATE (S)

1/7/11

OTHER PERSONNEL ON SITE: Brandon Chapman and Jeremy Peterson from Chapman Const.

WEATHER CONDITIONS

Cldy, cool ~34°, calm, light snow/rain, ±14" of snow on ground

Work Tasks: Measure flow, check URC02, check Fleetwood Creek, take reservoir level, measure piezometers, check crack in box culvert, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06

EQUIPMENT

Well probe, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	INSTRUMENTATION (CONT.) AND DOWNSTREAM TOE AREA			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
INSTRUMENTATION (CONT.)	39	FLUME 10-11-12	Removed, no longer used				
	40	FLUME 7-8	GH=0.13, increase 1.21 gpm	X			
	41	WEIR 5	Very low flows +/- 0.1 gpm	X			
	42	WEIR 12	GH=0.167, Decrease 9.55 gpm.	X			
	43	DRAIN 6	Increase 27.8 gpm	X			
	44	SPILLWAY FLOW	None	X			
	45	F-Seep	Increase 8.89 gpm	X			
	46						
	47						
DOWNSTREAM TOE	48	ABUTMENTS	Good, no change				
	49	SEEPAGE NEAR TOE	None noted this year				
	50	SEEPAGE DOWNSTREAM OF TOE, LEFT SIDE	F-Seep GH= 0.10	X	X		
	51	SEEPAGE IN STREAM CHANNEL, LEFT SIDE	Not noticed due to snow				
	52	VEGETATION	No Change.				
	53	CULVERT AT LOWER ROAD	Not monitored				
	54						
	55						
	56						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Dan Nelson BHI	OBSERVATION DATE (S)	1/7/11
OTHER PERSONNEL ON SITE: Brandon Chapman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Cldy, cool ~34°, calm, light snow/rain, ±14" of snow on ground
Work Tasks: Measure flow, check URC02, check Fleetwood Creek, take reservoir level, measure piezometers, check crack in box culvert, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	SPILLWAYS			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
PRINCIPAL SPILLWAY (BOX CULVERT AND OPEN CHANNEL CHUTE SPILLWAY)	58	ENTRANCE CONDITION	Good, no change				
	59	CENTERLINE CRACK FLOOR	Checked, no visual change	X			
	60	CENTERLINE CRACK CEILING	Checked, no visual change	X	X		
	61	TRANSVERSE JOINTS	No change, same CaCo3 deposits				
	62	GENERAL CONCRETE	Good to excellent, no change				
	63	SEEPAGE OR WATER	No moisture seen	X			
	64	OPEN CHANNEL CONCRETE	Good to excellent, no change				
	65	OPEN CHANNEL JOINTS	Good to excellent, no change				
OPEN CHANNEL STEEP CHUTE SPILLWAY	66	OPEN CHANNEL GENERAL	Good				
	67	JOINTS	Good				
	68	WALL CONCRETE	Visual from above, good				
	69	FLOOR CONCRETE	Visual from above, good				
	70	WALL TOPS	Good				
	71	WEEDS ALONG WALLS	None noted				
	72	STILLING BASIN RIPRAP	Good				
	73	WEED AND BRUSH IN STILLING BASIN	Cleared last fall, good				
	74						
	75						
	76						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Dan Nelson BHI

OBSERVATION DATE (S)

1/7/11

OTHER PERSONNEL ON SITE: Brandon Chapman and Jeremy Peterson from Chapman Const.

WEATHER CONDITIONS

Cldy, cool ~34°, calm, light snow/rain, ±14" of snow on ground

Work Tasks: Measure flow, check URC02, check Fleetwood Creek, take reservoir level, measure piezometers, check crack in box culvert, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06

EQUIPMENT

Well probe, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	RESERVOIR AND UPSTREAM DRAINAGE BASIN			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
RESERVOIR	77	LEFT SIDE (TAILINGS SLOPE)	Stable				
	78	RIGHT SIDE	Stable				
	79	RESERVOIR LEVEL	Low level - Below gauge	X			
	80	WETLANDS	Good, no change				
	81	UPPER POND	Full, no change				
	82	DISTANCE FROM UPSTREAM SLOPE	~ 850 ft. typical low reservoir level	X			
	83						
	84						
	85						
UPSTREAM DRAINAGE BASIN	86	PRECIPITATION WY 2010-2011 AS OF DATE OF INSP	Low, 50% of normal	X			
	87	RECENT RAINS	3.4 inches of precipitation in the last month. Significant snow in the two weeks.	X			
	88	FIRE DANGER	None				
	89	CHANGES	None				
	90	VEGETATION	No change				
	91	RAINY CREEK DRAINAGE	No change				
	92	FLEETWOOD CREEK DRAINAGE	No change				
	93	MINE SITE	Shut Down for winter				
	94						
	95						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Dan Nelson BHI	OBSERVATION DATE (S)	1/7/11
OTHER PERSONNEL ON SITE: Brandon Chapman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Cldy, cool ~34°, calm, light snow/rain, ±14" of snow on ground
Work Tasks: Measure flow, check URC02, check Fleetwood Creek, take reservoir level, measure piezometers, check crack in box culvert, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	EARTHEN SPILLWAY AND MILL POND AND OTHER			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
EARTHEN SPILLWAY	96	LEFT SIDE NEXT TO CREST	Good, no change				
	97	RIGHT SIDE	Good, no change				
	98	RESERVOIR LEVEL	Low, minimum level - Below Gauge				
	99	RIPRAP	Good, no change				
	100	ROAD CONDITION	Good, no change				
	101	DOWNSTREAM SLOPE	Good, no change				
	102						
	103						
MILL POND	104						
	105	CREST	Good				
	106	UPSTREAM FACE	Good				
	107	DOWNSTREAM FACE	Good				
	108	SPILLWAY FLOW	Low flow in spillway this year				
	109	RIPRAP IN SPILLWAY	Good, no change				
	110	ANIMALS ON EMBANKMENT	Not seen due to snow	X			
	111	ANIMALS IN SPILLWAY	No, beaver not present				
OTHER	112	RESERVOIR LEVEL	Low	X			
	113	Animals Monitoring	None noted during this visit.	X			

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

I declare that the data collection and completion of this report titled the December 2010 Routine Owners Inspection Report for the Kootenai Development Impoundment Dam, known as the subject property was completed under my direction. This assessment has revealed the conditions discussed in the inspection form in connection with the property. I declare that the statements made in this report are true to the best of my belief and professional knowledge.



Kurtis M. Hafferman, P.E.

MT PE 10457

Date

69

OVERCAST
RAIN
34°-38°

R.56.1

DECEMBER INSPECTION

KDID

JANUARY 7th, 2011

DW

KMH

BRANDON

JOSEPH

- SMOULMOBILES -

FLUMES

FLEETWOOD CREEK 39°

GH = FROZEN 0.41'

VRG-02 42°

GH = 0.35'

LRC-01 49°

GH = 0.70'

P-SEEP 43°

GH = 0.10'

LRC-02 41°

GH = 0.40'

CC-02 41°

GH = 0.31'

LRC-06 42°

GH = 0.51'

Piezometers

P

104.40' DRY 103.9 100.39'

P1

107.50' DRY 103.70'

P2

119.75' WET 126.0 Bot 122.0

P3

62.35' DRY 60.91'

P4

110.46' DRY 106.23'

P5

104.34' DRY

PM6

65.7' Dry

PM2

103.85' water 104.8 Bot

PM5

50.07 wet

PM4

41.15' Dry

PM3

51.78' Dry

PM1

51.95' wat. 54.85 bot

A8

8.15' wat 28.2' bot

73

104.40'

Denotes incorrect reading by Jeremy replaced
w/ reading by Brandon that correlates to
past readings

DRAINS

1- DRY

2- DRY

3- LOW FLOW 48° CLEAR & STEADY

4- LOW FLOW 48° CLEAR & STEADY

FLUME 1234 GH = 0.12' 48°

5- VERY LOW FLOW CLEAR & STEADY 48°

WICK 5 = 1/4" VERY LOW FLOW

6- CLEAR & STEADY 49°

GH = 11 1/2"

7- DRY - SEWAGE UNDER DRAIN

8- VERY LOW FLOW CLEAR & STEADY 48°

FLUME 78 GH = 0.13'

9- LOW FLOW CLEAR & STEADY 51°

DRAINS CONT'D.

75

10- LOW FLOW CLEAR & STEADY 51°

11- LOW FLOW CLEAR & STEADY 51°

WICK 12 49° 2" GH

12- LOW FLOW CLEAR & STEADY 41°

ALL WATER WICKS WERE CLEAR

APPENDIX 3

UPDATED PIEZOMETER DATA AND GRAPHS

[illegible]

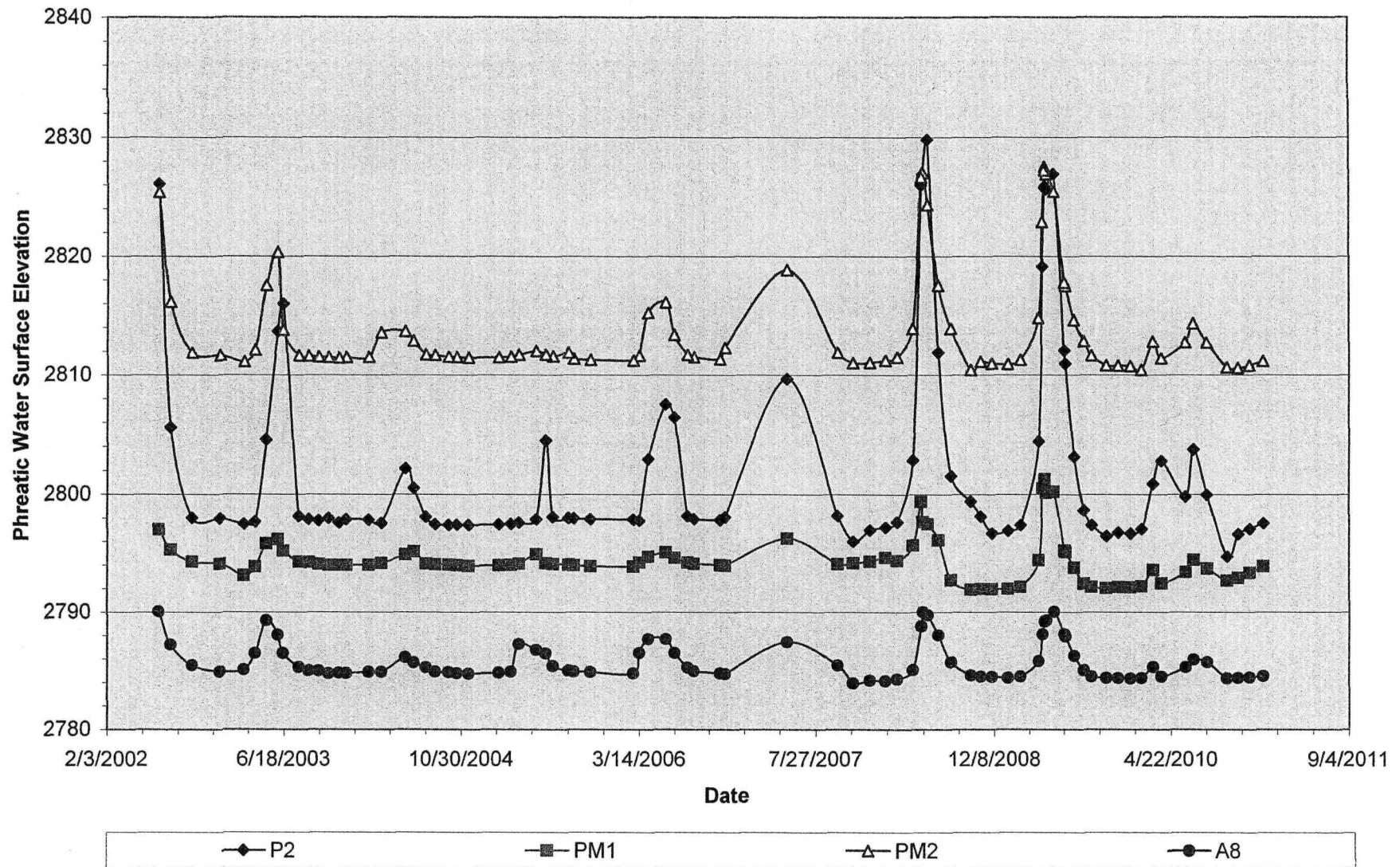
From S:\DOCUMENT\JOB FILES\Jobs\RR_56_01\Documents\Annual Inspection\PIEZOMETERS

Billmayer & Hafferman Inc.														
Kootenai Development Impoundment Dam Annual Inspection														
3-Nov-10 Last Update														
Hafferman														
Wet Piezometer Plots														
Bold = Interpolated values														
Piezometer Num P2 Elev.				PM1 Elev.				PM2 Elev.				A8 Elev.		
G.S.= 2917.321				G.S.= 2845.852				2915.04				G.S.= 2792.7		
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev		
1/7/2011	119.75	122	2797.571	51.95	54.85	2793.902	103.85	104.8	2811.19	8.15	28.2	2784.55		
11/30/2010	120.25	122.3	2797.071	52.5	54.85	2793.352	104.25	104.8	2810.79	8.26	28.2	2784.44		
10/29/2010	120.68	122	2796.641	52.92	54.85	2792.932	104.43	104.95	2810.61	8.3	28.2	2784.40		
9/28/2010	122.6	122.1	2794.721	53.15	54.8	2792.702	104.4	104.6	2810.64	8.34	28.3	2784.36		
8/2/2010	117.35	122.1	2799.971	52.15	54.8	2793.702	102.3	104.6	2812.74	6.96	28.3	2785.74		
6/25/2010	113.52	122.1	2803.801	51.41	54.8	2794.442	100.67	104.6	2814.37	6.75	28.3	2785.95		
6/3/2010	117.5	122.1	2799.821	52.44	54.8	2793.412	102.27	104.6	2812.77	7.4	28.3	2785.30		
3/26/2010	114.49	122.1	2802.831	53.39	54.8	2792.462	103.62	104.6	2811.42	8.19	28.3	2784.51		
3/3/2010	116.42	122.1	2800.901	52.25	54.8	2793.602	102.2	104.6	2812.84	7.37	28.3	2785.33		
1/29/2010	120.24	122.1	2797.081	53.65	54.8	2792.202	104.6	104.6	2810.44	8.32	28.3	2784.38		
12/29/2009	120.64	122.1	2796.681	53.74	54.8	2792.112	104.28	104.6	2810.76	8.37	28.3	2784.33		
11/25/2009	120.56	122.1	2796.761	53.71	54.8	2792.142	104.25	104.6	2810.79	8.31	28.3	2784.39		
10/23/2009	120.85	122.1	2796.471	53.81	54.8	2792.042	104.22	104.6	2810.82	8.3	28.3	2784.40		
9/11/2009	119.91	122.1	2797.411	53.69	54.8	2792.162	103.39	104.6	2811.65	8.2	28.3	2784.50		
8/21/2009	118.67	122.1	2798.651	53.42	54.8	2792.432	102.18	104.6	2812.86	7.66	28.3	2785.04		
7/24/2009	114.13	122.1	2803.191	52.07	54.8	2793.782	100.41	104.6	2814.63	6.42	28.3	2786.28		
6/29/2009	106.36	122.1	2810.961	50.73	54.8	2795.122	97.52	104.6	2817.52	4.75	28.3	2787.95		
6/26/2009	105.24	122.1	2812.081	50.6	54.8	2795.252	97.24	104.6	2817.8	4.565	28.3	2788.14		
5/27/2009	90.4	122.1	2826.921	45.62	54.8	2800.232	89.6	104.6	2825.44	2.65	28.3	2790.05		
5/5/2009	91.68	122.1	2825.641	45.71	54.8	2800.142	88.15	104.6	2826.89	3.41	28.3	2789.29		
5/1/2009	91.45	122.1	2825.871	44.56	54.8	2801.292	87.52	104.6	2827.52	3.44	28.3	2789.26		
4/30/2009	91.55	122.1	2825.771	44.66	54.8	2801.192	87.81	104.6	2827.23	3.48	28.3	2789.22		
4/24/2009	98.18	122.1	2819.141	45.37	54.8	2800.482	92.13	104.6	2822.91	4.59	28.3	2788.11		
4/13/2009	112.87	122.1	2804.451	51.43	54.8	2794.422	100.24	104.6	2814.8	6.88	28.3	2785.82		

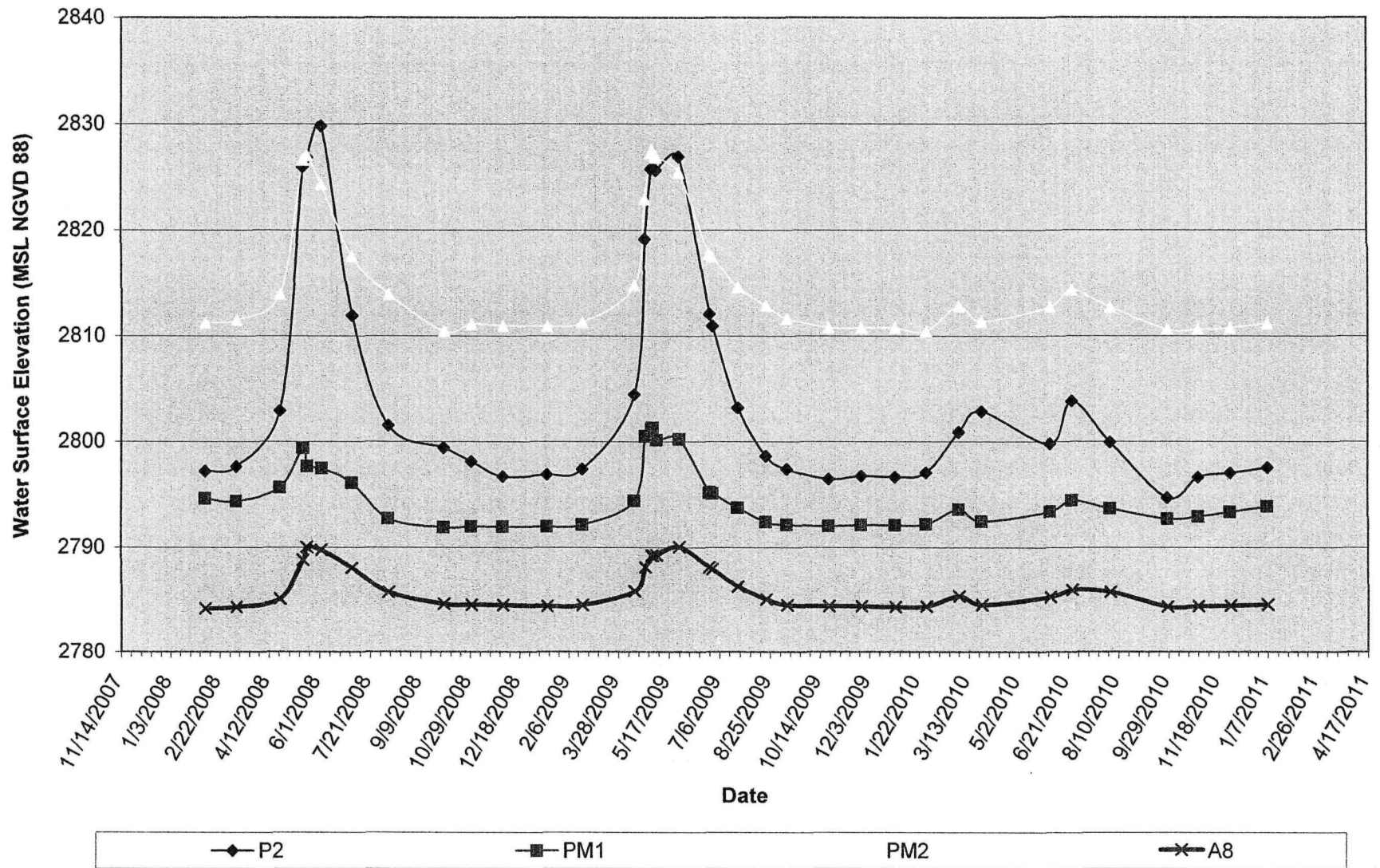
Piezometer Num	P2 Elev.			PM1 Elev.			PM2 Elev.			A8 Elev.		
	G.S.= 2917.321			G.S.= 2845.852			2915.04			G.S.= 2792.7		
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
2/20/2009	119.9	122.1	2797.421	53.69	54.8	2792.162	103.75	104.6	2811.29	8.2	28.3	2784.50
1/15/2009	120.4	122.1	2796.921	53.86	54.8	2791.992	104.11	104.6	2810.93	8.3	28.3	2784.40
12/1/2008	120.61	122.1	2796.711	53.9	54.8	2791.952	104.07	104.6	2810.97	8.21	28.3	2784.49
10/30/2008	119.17	122.1	2798.151	53.87	54.8	2791.982	103.91	104.6	2811.13	8.18	28.3	2784.52
10/2/2008	117.9	122.1	2799.421	53.94	54.8	2791.912	104.6	104.6	2810.44	8.09	28.3	2784.61
8/8/2008	115.78	122.1	2801.541	53.12	54.8	2792.732	101.1	104.6	2813.94	6.97	28.3	2785.73
7/3/2008	105.4	122.1	2811.921	49.73	54.8	2796.122	97.49	104.6	2817.55	4.65	28.3	2788.05
6/3/2008	87.52	122.1	2829.801	48.36	54.8	2797.492	90.71	104.6	2824.33	2.93	28.3	2789.77
5/20/2008	90.49	122.1	2826.831	48.17	54.8	2797.682	88	104.6	2827.04	2.67	28.3	2790.03
5/16/2008	91.34	122.1	2825.981	46.45	54.8	2799.402	88.4	104.6	2826.64	3.88	28.3	2788.82
4/23/2008	114.42	122.1	2802.901	50.16	54.8	2795.692	101.1	104.6	2813.94	7.6	28.3	2785.10
3/10/2008	119.65	122.1	2797.671	51.47	54.8	2794.382	103.53	104.6	2811.51	8.4	28.3	2784.30
2/7/2008	120.1	122.1	2797.221	51.2	54.8	2794.652	103.8	104.6	2811.24	8.55	28.3	2784.15
12/26/2007	120.34	122.1	2796.981	51.52	54.8	2794.332	103.98	104.6	2811.06	8.52	28.3	2784.18
11/9/2007	121.3	122.1	2796.021	51.65	54.8	2794.202	104	104.6	2811.04	8.75	28.3	2783.95
9/27/2007	119.12	122.1	2798.201	51.75	54.8	2794.102	103.12	104.6	2811.92	7.22	28.3	2785.48
5/8/2007	107.64	122.1	2809.681	49.57	54.8	2796.282	96.18	104.6	2818.86	5.22	28.3	2787.48
11/14/2006	119.21	122.1	2798.111	51.88	54.8	2793.972	102.72	104.6	2812.32	7.96	28.3	2784.74
10/30/2006	119.48	122.1	2797.841	51.82	54.8	2794.032	103.69	104.6	2811.35	7.92	28.3	2784.78
8/16/2006	119.39	122.1	2797.931	51.72	54.8	2794.132	103.51	104.6	2811.53	7.72	28.3	2784.98
7/28/2006	119.14	122.1	2798.181	51.61	54.8	2794.242	103.32	104.6	2811.72	7.42	28.3	2785.28
6/21/2006	110.89	122.1	2806.431	51.23	54.8	2794.622	101.62	104.6	2813.42	6.18	28.3	2786.52
5/27/2006	109.78	122.1	2807.541	50.76	54.8	2795.092	98.92	104.6	2816.12	4.98	28.3	2787.72
4/7/2006	114.34	122.1	2802.981	51.14	54.8	2794.712	99.79	104.6	2815.25	4.96	28.3	2787.74
3/12/2006	119.52	122.1	2797.801	51.62	54.8	2794.232	103.39	104.6	2811.65	6.18	28.3	2786.52
2/24/2006	119.44	122.1	2797.881	51.95	54.8	2793.902	103.79	104.6	2811.25	7.92	28.3	2784.78
10/27/2005	119.41	122.1	2797.911	51.94	54.8	2793.912	103.76	104.6	2811.28	7.81	28.3	2784.89
9/10/2005	119.32	122.1	2798.001	51.84	54.8	2794.012	103.66	104.6	2811.38	7.76	28.3	2784.94
8/27/2005	119.3	122.1	2798.021	51.78	54.8	2794.072	103.14	104.6	2811.9	7.68	28.3	2785.02
7/14/2005	119.22	122.1	2798.101	51.74	54.8	2794.112	103.46	104.6	2811.58	7.28	28.3	2785.42

Piezometer Num P2 Elev.				PM1 Elev.			PM2 Elev.			A8 Elev.		
G.S.= 2917.321				G.S.= 2845.852			2915.04			G.S.= 2792.7		
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
6/24/2005	112.79	122.1	2804.531	51.68	54.8	2794.172	103.29	104.6	2811.75	6.22	28.3	2786.48
5/29/2005	119.42	122.1	2797.901	50.92	54.8	2794.932	103.01	104.6	2812.03	5.91	28.3	2786.79
4/10/2005	119.7	122.1	2797.621	51.72	54.8	2794.132	103.32	104.6	2811.72	5.42	28.3	2787.28
3/19/2005	119.82	122.1	2797.501	51.82	54.8	2794.032	103.49	104.6	2811.55	7.79	28.3	2784.91
2/13/2005	119.86	122.1	2797.461	51.87	54.8	2793.982	103.54	104.6	2811.5	7.86	28.3	2784.84
11/19/2004	119.9	122.1	2797.421	51.91	54.8	2793.942	103.59	104.6	2811.45	7.96	28.3	2784.74
10/17/2004	119.89	122.1	2797.431	51.84	54.8	2794.012	103.52	104.6	2811.52	7.91	28.3	2784.79
9/24/2004	119.91	122.1	2797.411	51.81	54.8	2794.042	103.49	104.6	2811.55	7.82	28.3	2784.88
8/17/2004	118.84	122.1	2797.481	51.79	54.8	2794.062	103.34	104.6	2811.7	7.79	28.3	2784.91
7/22/2004	119.21	122.1	2798.111	51.72	54.8	2794.132	103.29	104.6	2811.75	7.42	28.3	2785.28
6/18/2004	116.8	122.1	2800.521	50.69	54.8	2795.162	102.14	104.6	2812.9	7.01	28.3	2785.69
5/25/2004	115.14	122.1	2802.181	50.95	54.8	2794.902	101.34	104.6	2813.7	6.55	28.3	2786.15
3/19/2004	119.74	122.1	2797.581	51.68	54.8	2794.172	101.46	104.6	2813.58	7.8	28.3	2784.90
2/12/2004	119.45	122.1	2797.871	51.82	54.8	2794.032	103.52	104.6	2811.52	7.8	28.3	2784.90
12/10/2003	119.44	122.1	2797.881	51.86	54.8	2793.992	103.54	104.6	2811.5	7.91	28.3	2784.79
11/19/2003	119.72	122.1	2797.601	51.84	54.8	2794.012	103.59	104.6	2811.45	7.9	28.3	2784.80
10/21/2003	119.32	122.1	2798.001	51.84	54.8	2794.012	103.54	104.6	2811.5	7.94	28.3	2784.76
9/23/2003	119.51	122.1	2797.811	51.76	54.8	2794.092	103.49	104.6	2811.55	7.7	28.3	2785.00
8/26/2003	119.42	122.1	2797.901	51.62	54.8	2794.232	103.42	104.6	2811.62	7.68	28.3	2785.02
7/29/2003	119.16	122.1	2798.161	51.58	54.8	2794.272	103.38	104.6	2811.66	7.39	28.3	2785.31
6/14/2003	101.34	122.1	2815.981	50.62	54.8	2795.232	101.23	104.6	2813.81	6.22	28.3	2786.48
5/30/2003	103.62	122.1	2813.701	49.67	54.8	2796.182	94.67	104.6	2820.37	4.62	28.3	2788.08
4/28/2003	112.74	122.1	2804.581	50.02	54.8	2795.832	97.48	104.6	2817.56	3.41	28.3	2789.29
3/28/2003	119.62	122.1	2797.701	51.99	54.8	2793.862	102.91	104.6	2812.13	6.21	28.3	2786.49
2/24/2003	119.82	122.1	2797.501	52.74	54.8	2793.112	103.9	104.6	2811.14	7.62	28.3	2785.08
12/18/2002	119.34	122.1	2797.981	51.74	54.8	2794.112	103.36	104.6	2811.68	7.77	28.3	2784.93
9/30/2002	119.28	122.1	2798.041	51.55	54.8	2794.302	103.12	104.6	2811.92	7.22	28.3	2785.48
7/31/2002	111.72	122.1	2805.601	50.54	54.8	2795.312	98.87	104.6	2816.17	5.46	28.3	2787.24
6/28/2002	91.22	122.1	2826.101	48.82	54.8	2797.032	89.63	104.6	2825.41	2.62	28.3	2790.08

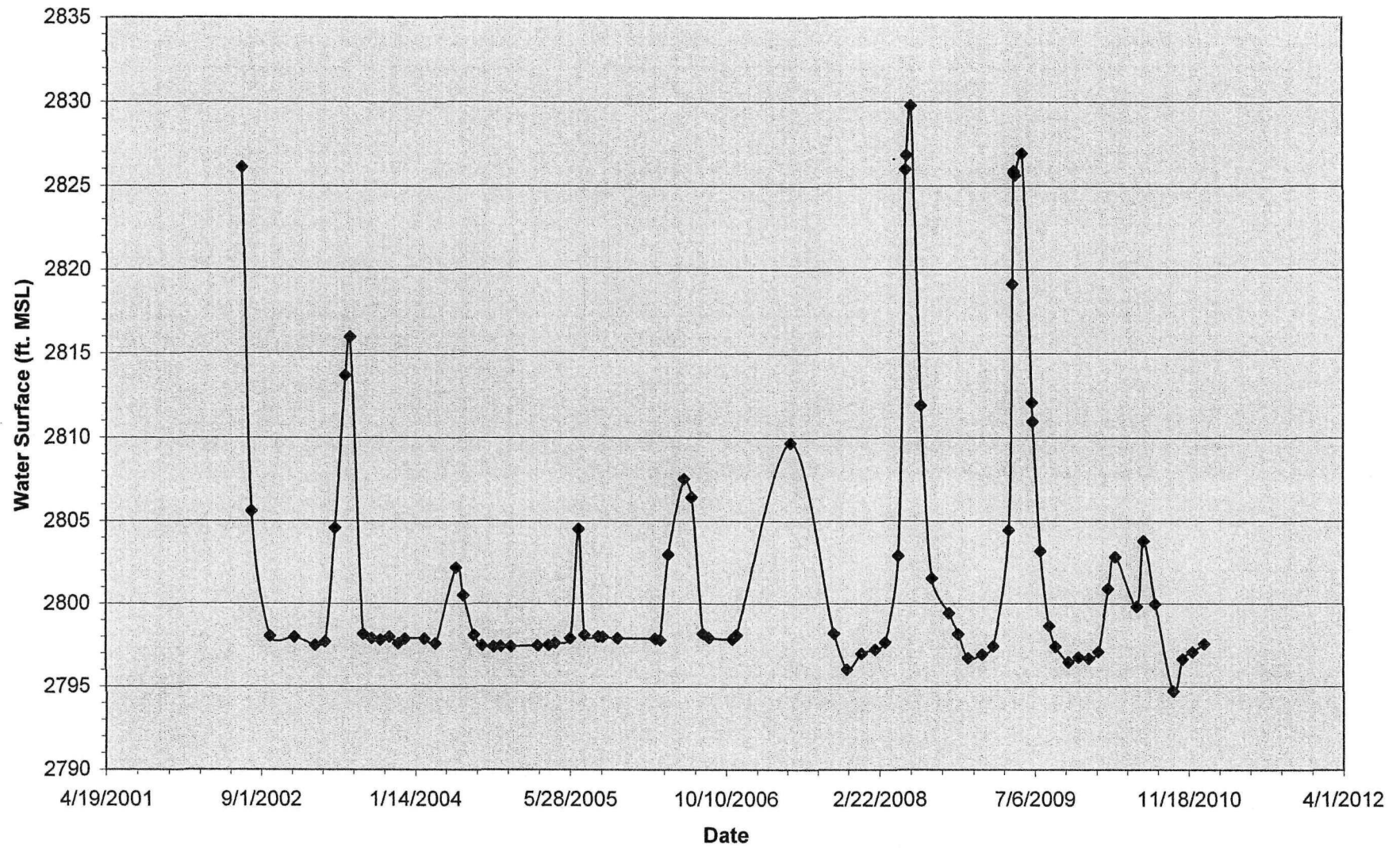
KDID Piezometers July 1, 2002 to January 07, 2011



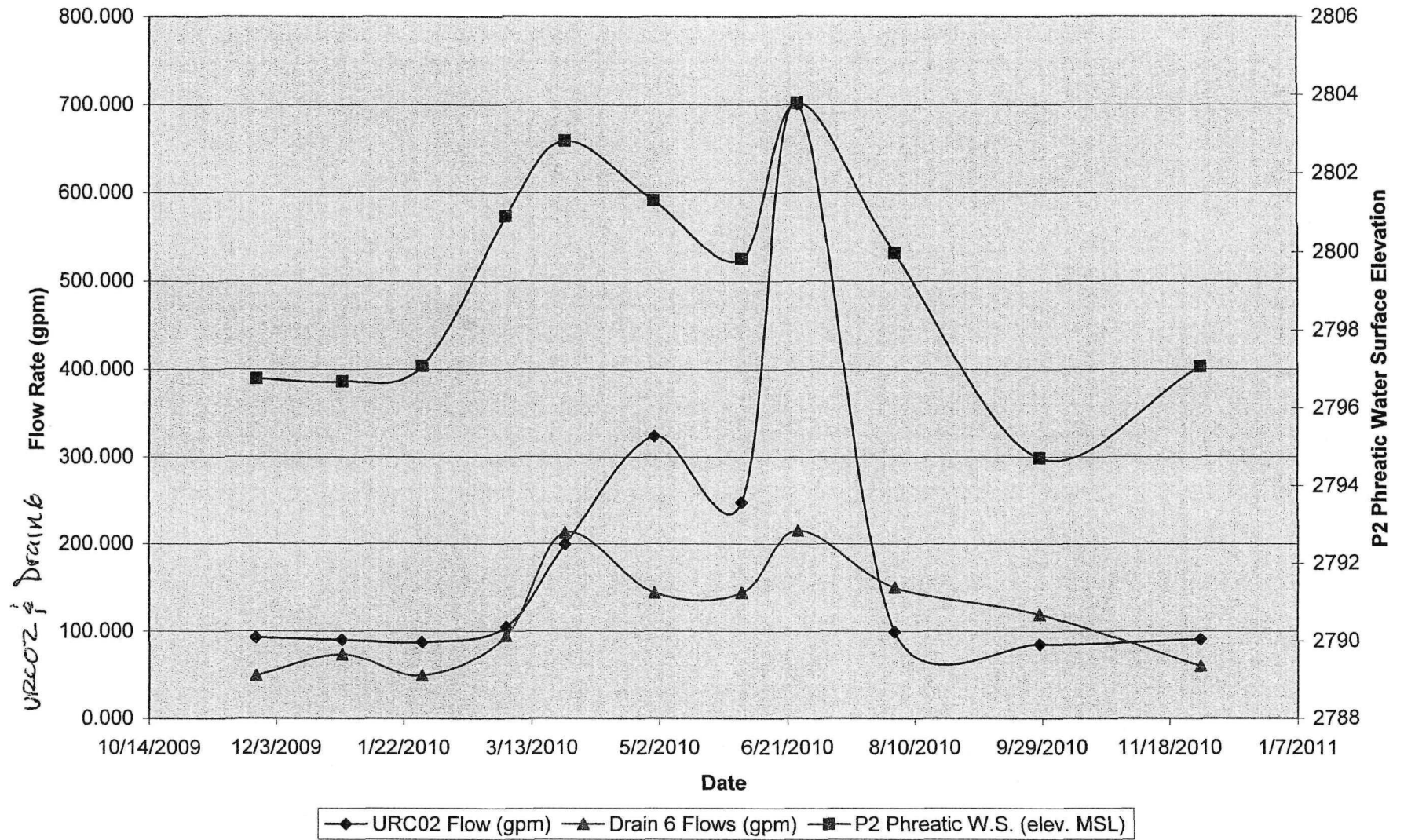
KDID All "Wet" Piezometer Elevations 2008 - 2010



KDID Piezometer P2



URC02 Inflows, Drain 6 Outflow and Piezometer P2



KDID Inflow at Upper Rainy Creek and Drian 6 Comparison

